COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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September 18, 2003

TO: Each Supervisor

FROM: James A. Noyes
Director of Public Works

RECYCLED WATER REPORT
MOTION OF MAY 20, 2003, SYNOPSIS 11

On May 20, 2003, your Board instructed the Directors of Public Works and Parks and Recreation, the Chief Administrative Officer (CAO), and other appropriate departments to review current policies for the use of recycled water at County facilities and, if no policy exists, to recommend one to the Board. Attached is our report.

Our research concluded that Public Works and Parks and Recreation in conjunction with County Sanitation Districts of Los Angeles County have aggressively moved into the uses of recycled water at our seawater barrier for groundwater replenishment and landscape irrigation at some County parks and golf courses. However, while your Board had gone on record in support of various principles and specific legislation that dealt with recycled water issues, it had no adopted ordinances or official policies mandating the use of recycled water at County facilities.

To assure implementation of successful policies that would maximize the use of recycled water, we have gathered extensive information on water reuse data and the legal and regulatory framework governing the use of recycled water. This information is detailed in our report.

Over the past ten years, significant steps have been made toward the development of Statewide and local policy to provide institutional, financial, and regulatory support for the use of recycled water. The most pertinent laws and regulations applicable to the use of recycled water can be found within the Water, Health and Safety, and Government Codes and provide local governing bodies with guidelines on the enforcement, implementation, and promotion of recycled water uses.

In the County of Los Angeles, water managers understand the need to maximize use of recycled water and have established ambitious goals for recycled water usage. Current uses of recycled water focus in the areas of landscaping, groundwater replenishment, and use within the seawater barriers. Increasing opportunities and expanding the areas of use for recycled water are generally accepted as necessary measures to ensure efficient use of local supplies. Public Works, working with local water agencies, has plans for expanded use of recycled water at its seawater barrier projects and groundwater recharge facilities. Waterworks District No. 36, working through the Castaic Lake Water Agency, is pursuing use of recycled water for landscaping, golf courses, and other appropriate uses. The County Sanitation Districts, working together with Parks and Recreation, continues to pursue the use of recycled water at County parks and golf courses. Although agencies throughout the County have been proactive and continue efforts in maximizing recycled water use, these efforts are being pursued independent of a Countywide coordinated strategy. In order to establish consistency and evaluate opportunities to expand recycled water use, including and beyond the areas of landscaping and groundwater recharge, the development of a Countywide recycled water policy is becoming increasingly important.

Due to the complex nature of issues surrounding the development and enforcement of a Countywide policy for the safe and reasonable use of recycled water, the potential for significant consequences, and to insure rigorous evaluation of the issues surrounding the expanded use of recycled water, Public Works together with Parks and Recreation, Internal Services, and the CAO are recommending the following for your consideration:

RECOMMENDATION

> *Adopt as policy of the County of Los Angeles that recycled water be used for irrigation at County parks and golf courses, on County maintained parkways, and other large expansive greenbelts where the use of such recycled water is available, cost effective, and meets the other requirements as set forth in the Government, Water, and Health and Safety Codes.*

Expanding the use of recycled water is generally accepted as necessary to ensure efficient use of our local supplies. A Countywide policy that would require use of recycled water at County golf courses, parks, and other large expansive greenbelts would recognize the County's leadership role in the use of recycled water. This would communicate leadership support for Parks and Recreation efforts to expand their uses of recycled water. Also, implementation efforts over the use of recycled water vary from

each facility and have been inconsistent due to the lack of an adopted County policy on recycled water use. This policy would be consistent with the recommendations of California's Recycled Water Task Force, "Water Recycling 2030" Report.

RECOMMENDATION

> *Establish a Countywide Task Force to more fully assess the complex nature of issues surrounding the development of a broader Countywide policy for the use of recycled water for non-potable purposes and to develop a well-defined policy on the use of recycled water. The Task Force should be guided by the appropriate recommendations of California's Recycled Water Task Force, "Water Recycling 2030" Report. The Task Force should provide an initial report back to the Board within six months with additional policy recommendations.*

The Task Force should identify and evaluate the potential uses of recycled water within the County of Los Angles. As part of its evaluation, the Task Force should consider, but not be limited to, the use of recycled water for irrigation at all County facilities, the practicability and feasibility of recycled water for toilet and urinal flushing in designated structures, and the evaluation and recommendation, if appropriate, of the development of well-defined local recycled water ordinances for new developments. These evaluations should include not only opportunities but any constraints or impediments to the use of recycled water.

California's Recycled Water Task Force "Water Recycling 2030 Report" identifies opportunities for California to increase its recycled water usage. It focuses on solutions that make the most difference in creating opportunities for recycled water uses. Appropriate agencies need to display a commitment to fulfill these recommendations. Therefore, the task force should also be guided by recommendations contained in "Water Recycling 2030."

RECOMMENDATION

> *Direct Public Works to monitor future State legislation regarding recommendations of California's Recycled Water Task Force and, when appropriate, report to the Board with specific recommendations*.

In its report to the State Legislature, the Governor's Recycled Water Task Force identified recycled water as a significant source of water for the State of California. It identified 26 issues and adopted recommendations to address obstacles, impediments, and opportunities for the State and local agencies to increase their use of recycled

water. The study seeks to improve the way all levels of government approach the use of recycled water and to assist each other and the public to enhance the ability for cost-effective and safe recycled water projects to be developed. While the time frames and recommendations contained in the report appear realistic, many factors and priorities affect the various responsible entities' ability to implement these recommendations. Presently, none of the local agencies involved in the development of the Recycled Water Task Force "Water Recycling 2030 Report" have taken any formal adoption positions nor, with the exception of Assembly Bill 334 (Goldberg), has the State Legislature taken action to adopt recommendations contained within the report.

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Attach.

cc: Chief Administrative Office
County Sanitation Districts of Los Angeles County
Executive Office
Internal Services Department
Department of Parks and Recreation

COUNTY OF LOS ANGLES

REPORT ON WATER RECYCLING

PREPARED BY:

DEPARTMENT OF PUBLIC WORKS

In Partnership With:

CHIEF ADMINISTRATIVE OFFICE

INTERNAL SERVICES DEPARTMENT

DEPARTMENT OF PARKS AND RECREATION

September 2003

Contents

Attachments

REPORT
ON
WATER RECYCLING

Introduction

Southern Californians are continuously faced with the challenge of providing a reliable water supply to meet the demands of a rapidly growing population. The scarcity of local supplies requires nearly two thirds of the region's water to be imported from Northern California and the Colorado River. According to the California Water Plan Update, Bulletin 160-98, released by the State Department of Water Resources in November 1998, the State's water shortages were forecasted to be 2.4 million AF in average rainfall years and up to 6.2 million AF in drought years by the year 2020 absent development of additional water management options. With an expected State population reaching 47.5 million by the year 2020, and our County population expected to grow by 2 million people, it is increasingly important that we use our water supplies more efficiently.

On an annual basis, the County of Los Angeles requires approximately 900,000 AF of local water and 824,000 AF of imported water to offset the water consumed by a population of 10 million. Based on data collected in 1995 from the U.S. Geological Survey, the proportionate water use averages 25.5 percent domestic, 6.9 percent commercial, 2.3 percent industrial, 58.4 percent electric generation, and 6.9 percent other uses. In recent years, imported water supplies historically available to the region are becoming increasingly less reliable due to environmental obligations and rising competition in water use and allocation. The region's semi-arid climate and cyclic weather patterns have compounded the uncertainty of our water resources and amplified the urgency for developing a long-term balanced policy for sound water use practice that includes an emphasis on developing local supplies.

As demand for water continues to grow in the County of Los Angeles, water policy managers realize that the area's water management portfolios must be diversified to ensure reliability. The increasing demands being placed on our imported supplies turned the attention of many to focus on maximizing the supply of recycled water and promoting the use of recycled water as an alternative dependable supply for nonpotable uses.

State and Regional Planning Efforts in Promoting Water Reuse

In the late 1980s, Southern California experienced periods of extended droughts (1987-1992) that underlined the importance of developing and enforcing sustainable measures to maintain a reliable water supply. Water conservation, recycling, desalination, and coordinated conjunctive use of surface and groundwater are all management strategies for augmenting local water resources. Water recycling captured much of the attention during the droughts in the late 1980s. The focus on the use of recycled water continued even after the droughts subsided in 1992. Today, water recycling is viewed as an important component in the State's overall water supply solution as it is a reliable local resource that would help lessen the region's dependency on imported sources.

Recognizing that short- and long-term policies will promote more efficient use of existing water supplies, policymakers working together with State and local stakeholders began a series of efforts over the last decade to ensure the existence of an institutional framework in the government and water codes (Water Codes 13550-13556 and 13575-13583 and Government Codes 65601-65607) for the development of sound water policies and equitable solutions in managing California's water resources and in the use of recycled water as a water source in urban areas.

In the Water Recycling Act of 1991 (Water Code 13575-6), the State Legislature concluded among other things that California is subject to periodic droughts while the development of traditional water resources has not kept pace with the State's population. It further identified the environmental benefits of recycled water uses and concluded that recycled water has proven to be safe from a public health standpoint and is a cost-effective, reliable method of helping California to meet its water supply needs.

In 1993, the U.S. Bureau of Reclamation at the request of the U.S. Congress and authorized by Title XVI of Public Law 102-575 (The Reclamation Wastewater and Groundwater Study and Facilities Act of 1992), joined in partnership with the State of California and seven of Southern California's local water and wastewater agencies to begin a six-year, two-phased comprehensive effort to examine recycled water opportunities in Southern California from a regional perspective. The study was named the Southern California Comprehensive Water Reclamation and Reuse Study (SCCWRRS). Phase 1A and 1B of the study developed an extensive database on the supplies of and demands for recycled water and a set of planning tools to analyze the benefits of regional water recycling strategies. The major conclusion reached during the Phase 1B analysis was that a water recycling project that spans the whole region does not appear practical, however, subregional systems warranted further evaluation. The report also concluded that recycled projects provide broad societal benefits as well as benefits to rate payers and local communities. These benefits include avoided alternative water supply and waste discharge costs along with associated avoided environmental impacts.

Phase II of the study focused on developing a long-term regional recycling strategy and identifying short-term opportunities for implementing the strategy. During Phase II of the study, Public Works, representing the County of Los Angeles, was one of the 86 local agencies from across Southern California that actively participated in the Project Advisory Committee on the development and analysis of regional water recycling projects. Through their collaborative efforts, the participants of SCCWRRS have identified 34 projects for implementation by 2010, as well as the continuous development of a long-term regional strategy for recycled water projects by 2040. The 34 identified projects represent an annual yield of approximately 450,000 acre-feet with estimated unit costs of between $600 and $700 per acre-foot.

On October 7, 2001, Assembly Bill 331 (Goldberg) was signed into law (Water Code 13578). The bill called for the creation of the Recycled Water Task Force. The mission of the task force was to develop a report to the Legislature by July 1, 2003, that identifies constraints, impediments, and opportunities for the increase use of recycled water. The 40-

member task force included representatives of Federal, State, and local agencies, private entities, environmental organizations, universities, concerned individuals, and public interest groups. Also included were health officials and experts in the field of water recycling. The Sanitation Districts of Los Angeles County was among the appointed task force members. In the "Water Recycling 2030" report released in May 2003, the task force identified 26 issues organized into 6 categories impeding the increased usage of recycled water in California and adopted recommendations addressing all of the issues. Thirteen of the 26 recommendations were adopted as key elements deserving immediate attention.

The recommendations include improving government functions at all levels in handling water recycling activities, engaging the public in active participation and dialogue in the planning and decision making process for recycled water projects, addressing public health concerns and developing public education programs, adopting uniform Statewide regulations for dual plumbing and indoor use of recycled water, increasing State funding for recycling projects and providing expanded funding for health research, public awareness, and academic programs. While the findings were presented in a report to the Legislature, many of the recommendations were intended to be implemented by State and local agencies without further legislative mandate. Four of the recommendations require action by local governments. These recommended actions are (1) encourage recycled water use by using it in public agency buildings to flush toilets and to irrigate parks, (2) provide funding for public education and outreach, (3) adopt well-defined local recycled water ordinances, and (4) enforce the installation of plumbing that would allow the use of recycled water in accordance with local recycled water ordinances and building codes.

Recycled Water Producers

Currently, California is recycling approximately 500,000 AF per year for various beneficial uses. According to the "Water Recycling 2030" report, the State has the potential for recycling up to 1.5 million AF per year by 2030, freeing up freshwater supplies to meet approximately 30 percent of the anticipated household water needs. The sources of recycled water play an important role in determining the available supply that can meet this projected demand. Today, many counties, cities, and local municipalities in Southern California operate and maintain water recycling plants that are capable of producing treated water for direct and indirect use for groundwater recharge; injecting into seawater barriers; irrigating at parks, golf courses, schools, roadway greenbelts, public facilities, commercial buildings, nurseries, cemeteries, residential developments, and churches; industrial processes; agriculture; and environmental enhancement.

<u>County of Los Angeles</u>

In the County of Los Angeles, projects operated and maintained by the City of Los Angeles and the County Sanitation Districts continue to be the primary sources of recycled water. The City of Los Angeles produces recycled water from four facilities: the Los Angeles/Glendale Water Reclamation Plant, the Donald C. Tillman Water Reclamation Plant, the Hyperion Treatment Plant, and the Terminal Island Treatment Plant. With the exception of the Hyperion Treatment Plant, which produces secondary treated water that is

then released to the Santa Monica Bay, the city's plants are producing tertiary treated water for direct use in recycled water projects. Since 1995, the Hyperion Treatment Plant has been delivering a portion of the secondary treated water to the West Basin Water Reclamation Plant located in El Segundo for tertiary treatment and subsequent reuse.

The Sanitation Districts of Los Angeles County operate a total of 11 wastewater treatment facilities, 10 of which are classified as water recycling plants. Seven of the 10 water reclamation plants are capable of producing tertiary treated water suitable for reuse. The remaining 3 facilities produce secondary effluent that can be used for limited directed nonportable water purpose. The Districts Joint Water Pollution Control Plant in the City of Carson produces secondary effluent that is discharged to the ocean.

In addition to the West Basin Water Recycling Plant operated by the West Basin Municipal Water District, the Santa Monica Urban Runoff Recycling Facility operated by the City of Santa Monica and the Burbank Water Reclamation Plant operated by the City of Burbank are other water recycling plants contributing to the supply of available recycled water in the County of Los Angeles.

Quantities of Reuse

The following table provides a summary of reclaimed water produced and reused at each of the water recycling plants operated by the City of Los Angeles, the County Sanitation Districts, and other local agencies:

Water Recycling Agency	Effluent[1] (AF/year)	Reclaimed[2] (AF/year)	Reused (AF/year)
Los Angeles City[3]	511,840	41,550	41,550
Sanitation Districts of LA County[4]	594,222	223,179	79,448
Others[5] (Santa Monica, Burbank, Glendale, Las Virgines MWD, and West Basin MWD)	0	80,200	65,854
Total	1,106,062	344,929	186,852

[1]Treated wastewater discharged.
[2]Effluent available for reuse.
[3]City of LA Department of Water and Power, Urban Water Management Plan, Year 2000.
[4]County Sanitation Districts, Twelfth Annual Report on Reclaimed Water Use, FY 2000-01.
[5]Data provided by agencies. The source of recycled water is supplied by the City of Los Angeles.

Other Counties

Southern California Counties such as Orange, San Diego, Riverside, San Bernardino, and Santa Barbara are also aggressively pursuing water recycling programs to increase use of recycled water. In Orange County, recycled water is produced by 17 facilities operated by local cities, agencies, districts, or authorities. In San Diego County, recycled water is produced from 7 water recycling plants operated by local cities or water district. Riverside County also produces recycled water from 7 plants, 5 of which are owned and operated by the Eastern Municipal Water Districts, one by Western Municipal Water District, and the other by a regional wastewater authority (Inland Empire Utilities Agency). The County of Santa Barbara produces recycled water from 10 wastewater treatment plants, which are operated by local cities, the County, and special districts. The County of San Bernardino has one plant that produces treated water for recycled use. The following table provides a summary of reclaimed water produced and reused by each of the Counties:

Water Recycling Agency	Effluent[1] (AF)	Reclaimed (AF)	Reused (AF)
Orange County[2]	399,818	280,000	181,178
San Diego County[3]	336,000	13,700	13,700
Riverside County[4]	46,500	37,500	37,500
San Bernardino County[5]	67,000	67,000	22,800
Santa Barbara County[6]	N/A	1,748	1,748

[1]Effluent includes treated waste of secondary treatment or better.
[2]MWD of Orange County Regional Urban Water Management Plan Update, Year 2000.
[3]SDCWA Urban Water Management Plan, Year 2000.
[4]Eastern Riverside MWD and Western Riverside MWD Urban Water Management Plans, Year 2000.
[5]Inland Empire Utilities Agency's website
[6]Data provided by staff from County of Santa Barbara Department of Public Works.

Recycled Water Uses

Current uses of recycled water in Southern California range from landscape irrigation, industrial processes, agricultural activities, groundwater replenishment, and use in the seawater barriers to the newly expanded uses including toilet flushing in office buildings. In an effort to establish water recycling as a permanent source of water supply in the County of Los Angeles, the City of Los Angeles, County Sanitation Districts and other recycled water producers have established ambitious goals to expand increased usage of recycled water by an additional 265,000 AF annually by 2010.

The following tables provide the quantity and percentage breakdowns for each general category of reuse in the County of Los Angeles and other counties in Southern California:

County of Los Angeles

Reuse Category	Usage (AF/year)			
	Los Angeles City[2]	Sanitation Districts[3]	Others[4]	Total
Direct, Non-Potable[1]	31,550 (76%)	33,157 (42%)	26,365 (40%)	91,072
Groundwater Recharge	0	46,291 (58%)	31,989 (49%)	81,280
Seawater Intrusion Barrier	0	0	7,500 (11%)	14,500
Total	41,550	79,448	65,854	186,852

[1]Includes irrigation, industrial, agricultural, and recreational uses.
[2]City of Los Angeles Department of Water and Power, Urban Water Management Plan, Year 2000.
[3]Sanitation Districts of Los Angeles County, Twelfth Annual Status Report on Reclaimed Water Use, Fiscal Year 2000-01
[4]Data provided by the websites of listed cities and water districts, DSWA, and Water Replenishment District.

Other Counties

Reuse Category	Usage (AF/year)			
	Orange County[2]	San Diego County[3]	Riverside County[4]	San Bernardino County[5]
Direct, Non-Potable [1]	30,178	12,900	27,300	22,300
Groundwater Recharge	146,000	800	10,200	500
Seawater Intrusion Barrier	5,000	0	0	0
Total	181,178	13,700	37,500	22,800

[1]Includes irrigation, industrial, agricultural, and recreational uses.
[2]MWD of Orange County Regional Urban Water Management Plan Update, Year 2000.
[3]SDCWA Urban Water Management Plan, Year 2000.
[4]Eastern Riverside MWD and Western Riverside MWD Urban Water Management Plans, Year 2000.
[5]Inland Empire Utilities Agency's website.

Projects Utilizing Recycled Water

County of Los Angeles

The County of Los Angeles Department of Public Works (Public Works) has long recognized the importance of conserving valuable local water resources. Public Works has an ongoing commitment for using recycled water for two different purposes: groundwater replenishment and seawater barrier injection. For over 41 years, Public Works has been actively utilizing recycled water to recharge groundwater supplies. In 1995, Public Works started injecting recycled water at one of the three seawater barrier projects, the West Coast Basin, to minimize the use of imported water. On average, 7,000 acre-feet of recycled water are injected at the West Coast Basin Project on an annual basis.

The County Department of Parks and Recreation working together with the County Sanitation Districts, the Central and West Basin Municipal Water Districts, and local retail water purveyors has developed infrastructure to expand the use of recycled water at County parks and golf courses. While the use of recycled water is promoted Countywide, the actual implementation efforts vary from each facility and have been inconsistent due to the lack of an adopted County policy on recycled water use. The following table lists the sites, locations, and the sources of existing recycled water use at County-owned recreation facilities:

Site	**City**	**Source**
Cerritos Park	Cerritos	Los Coyotes WRP (Cerritos)
Del Aire Park	Hawthorne	West Basin
Alondra Park	Lawndale	West Basin
Lennox Park	Lennox	West Basin
Sunshine Park	La Puente	Pomona WRP (WVWD)
Carolyn Rosas Park	Rowland Heights	Pomona WRP (WVWD)
Rowland Heights Park	Rowland Heights	Pomona WRP (WVWD)
Sorenson Park	Whittier	San Jose Creek WRP (CBMWD)
Apollo Lakes Reg. Park	Lancaster	Lancaster WRP
Bonelli Reg. Park	San Dimas	Pomona WRP (Pomona)
Mountain Meadows Golf Course	San Dimas	Pomona WRP (Pomona)
Diamond Bar Golf Course	Diamond Bar	Pomona WRP (WVWD)
Schabarum Reg. Park	Rowland Heights	Pomona WRP (WVWD)
Lakewood Golf Course	Long Beach	Long Beach WRP (Long Beach)
Chester Washington Golf Course	Hawthorne	West Basin
Victoria Golf Course	Carson	West Basin

Besides the efforts of Public Works and Parks and Recreation, other agencies have been utilizing recycled water. The following table provides a partial listing of other major water recycling projects and distribution systems in the County of Los Angeles:

Los Angeles City[1]		
Existing		
Project	Location	Source
East Valley Water Recycling Project	San Fernando Valley	Tillman WRP
Japanese Garden	San Fernando Valley	Tillman WRP
Wildlife Lake	San Fernando Valley	Tillman WRP
Balboa Lake	San Fernando Valley	Tillman WRP
Los Angeles Greenbelt Project	Central City	Los Angeles/Glendale WRP
Sepulveda Basin Project	San Fernando Valley	Tillman WRP
Westside Project	West Los Angeles	West Basin WRP
Griffith Park/Caltrans	Central City	Los Angeles/Glendale WRP

Sanitation Districts of Los Angeles County[2]	
Existing	
Distribution System/Project Name	Source
La Cañada-Flintridge Country Club	La Cañada WRP
Long Beach Water Department	Long Beach WRP
City of Bellflower	Los Coyotes WRP
City of Cerritos	Los Coyotes WRP
City of Lakewood	Los Coyotes WRP
Central Basin MWD (Century)	Los Coyotes WRP
Pomona Water Department	Pomona WRP
Walnut Valley Water District	Pomona WRP
Water Replenishment District	San Jose Creek WRP
City of Industry	San Jose Creek WRP
California Country Club	San Jose Creek WRP
Arbor Nursery	San Jose Creek WRP
Central Basin MWD (Rio Hondo)	San Jose Creek WRP
Puente Hills/Rose Hills	San Jose Creek WRP

F.L. Norman's Nursery	San Jose Creek WRP
Piute Pond	Lancaster WRP
Nebeker Ranch	Lancaster WRP
Apollo Lakes County Regional Park	Lancaster WRP
Los Angeles World Airports	Palmdale WRP

Others		
Existing		
Project	Location	Source
Burbank Water and Power – Power Plant[3]	Burbank	Burbank Dept of Water and Power
Santa Monica Urban Runoff Recycling Facility[4]	Santa Monica	City's urban runoff

[1]City of Los Angeles Department of Water and Power, Urban Water Management Plan, Year 2000.
[2]For a more complete list of projects, refer to Sanitation Districts of Los Angeles County, Twelfth Annual Status Report on Reclaimed Water Use, Fiscal Year 2000-01.
[3]City of Burbank Water and Power's website.
[3]City of Santa Monica's website.

Future Reuse Projects

In addition to the ongoing uses at existing projects, public agencies are collaborating to develop new projects for recycled water uses as a viable alternative to potable water use. The County Sanitation Districts, in an effort to expand water reuse, is currently planning on connecting three County operated facilities to existing recycled water systems: Rancho Los Amigos Golf Course, Victoria Park, and Alondra Golf Course. The County Sanitation Districts has further identified a list of potential sites including the Whittier Narrows Golf Course, Whittier Narrows Recreation Area, Los Angeles Arboretum, Arcadia County Park, Santa Anita Golf Course, Michillinda Park, Eaton Canyon Golf Course, San Angelo Park, Bassett Park, Avocado Heights Park, and Santa Fe Dam Recreation Area for future connections to recycled water system. These sites would be served by a new distribution system rather than by extensions from existing systems.

Plant expansion of the West Basin's Recycling Facility is underway to deliver 100 percent recycled water the West Coast Basin Barrier. At the Alamitos and Dominguez Gap Barriers, efforts have begun to meet regulatory requirements to have these barriers online to receive approximately 9,000 acre-feet of recycled water annually for injection.

The Castaic Lake Water Agency has a goal of using 17,000 acre-feet annually of recycled water by 2020 for landscape, golf courses, an other appropriate uses to offset future imported water demands.

The following table shows future projects using recycled water from two major recycled water distributors in the County:

Los Angeles City[1]		
Future		
Project	Location	Source
Harbor Water Recycling Projects	Harbor City	Terminal Island TP
Headworks Project	San Fernando Valley	Tillman WRP
Griffith Park Project	Central City	Los Angeles/Glendale WRP
Central City/Elysian Park Water Recycling Project	Central City	Los Angeles/Glendale WRP
Eastside Project	Central City	Rio Hondo WRP (Sanitation District)

Sanitation Districts of Los Angeles County[2]		
Future		
Project	Location	Source
Alamitos Intrusion Barrier	Long Beach	Long Beach WRP
Main San Gabriel Basin Recharge Project	Irwindale	San Jose Creek WRP
Whittier Narrows Recreation Area	South El Monte	Whittier Narrows WRP
Center Pivot Alfalfa Farm	Palmdale	Palmdale WRP
Castaic Lake Water Agency	Castaic Lake	Valencia WRP

[1]City of Los Angeles Department of Water and Power, Urban Water Management Plan, Year 2000.
[2]Sanitation Districts of Los Angeles County, Twelfth Annual Status Report on Reclaimed Water Use, Fiscal Year 2000-01.

Digest of State Law

The California Constitution, since 1928, has prohibited the use of water for other than "reasonable beneficial uses" (Article X, Section 2). While the Constitution does not specifically address the use of recycled water, it is the basis for recycled water mandates in other state codes.

Legal requirements applicable to the use and usages of recycled water are found in State statutes and regulations. Most relevant statutes are found in the Water Code, but important references can be found in the Government, Health and Safety and Public Resource Codes.

Throughout the Government and Water Code language expressly defining the beneficial uses of recycled water as an alternative to potable water supply can be found. Some of the more pertinent sections are identified below:

Section 13550 through 13556 of the Water Code declares that the "use of potable domestic water for non-potable uses, including but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water" if recycled water is available and meets certain other requirements such as being furnished at a reasonable cost and meeting other provisions of the Health and Safety Codes. The codes further require public agencies and others to serve recycled water for non-potable uses if a suitable supply of recycled water is available (Section 13551).

The Water Recycling Act of 1991 (Section 13575-13583 of the Water Code) establishes Statewide goals to recycle 1,000,000 AF of water per year by the year 2010. The act provides guidelines on the nonpotable uses of recycled water for public agencies, suppliers, and retailers in order to accomplish this statewide goal. The act encourages agencies to utilize recycled water where it is most efficient and cost effective. It specifically identifies uses of recycled water to provide a reliable supply to protect investments in agriculture, greenbelts, and recreation and to replenish groundwater basins.

The Water Conservation in Landscaping Act (Sections 65591-65600 of the Government Code) mandates that if a local agency has not adopted a water-efficient landscape ordinance or has not adopted findings declaring a water-efficient landscape ordinance unnecessary by January 31, 1993, a model water-efficient landscape ordinance adopted by the Department of Water Resources shall be enforced by the local agency. This act promotes the beneficial uses of recycled water including services supplied through dual distribution systems.

The Water Recycling in Landscaping Act (Sections 65601-7 of the Government Code) declares the use of potable water for landscaped areas is a waste if recycled water is available. The act requires a local agency to adopt and enforce a recycled water ordinance requiring the use of recycled water for landscaped areas if notified, by a recycled water producer, that recycled water will be available within 10 years. The recycled water producer is required to meet all conditions governing the use of recycled water as described in Section 13500 of the Water Code.

Implementation Issues

Permit Process

There are two main categories in State standards and regulatory programs affecting water recycling: public health and water quality. The State Department of Health Services is responsible for establishing and adopting uniform Statewide reclamation criteria for each type of recycled water usage where the use involves the protection of public health. The Regional Water Quality Control Board (RWQCB) administers water quality regulations and the issuance and enforcement of permits to suppliers and/or distributors of recycled water. These permits include water quality as well as public health protections.

Overall jurisdiction is administered by the State Water Quality Control Board. In the process of permitting the use of recycled water, the State Department of Health Services has the obligation to provide consultation and recommendations to RWQCB in drafting master reclamation permits. The regulatory structure and current public health standards for the use of recycled water are found in Title 17 and 22 of California Code of Regulations. Title 17 contains regulations to protect against cross connections between potable and nonpotable systems. Title 22 contains the health related requirements for recycled water projects.

Although the use of recycled water is highly encouraged, and is embodied in State law, the permitting procedures, and difficulty in achieving public acceptance, can often be lengthy and complex. According to the report by California's Water Recycling Task Force, the interpretation of laws and regulations governing recycled water has not always been uniform throughout the State due to different hydrologic conditions, water quality issues, and regional perspectives.

Water Quality

Although the use of recycled water offers opportunities for decreasing the demand on valuable potable water resources, hesitation to embrace this effort, beyond its use for landscape irrigation, is still strong among the general public. Public health and safety remains the number one unsettling concern that contributes to the public's acceptance in the use of recycled water. Recycled water projects receiving the most controversy seem to focus on indirect potable reuse where the recycled water ends up as part of the drinking water supply. The most recent health concern is the effect pharmaceuticals and other synthetic chemicals known to be in the effluent used to generate recycled water may have on the population. Wastewater treatment plants are capable of removing most, but not all, of the drugs and household chemicals from the wastewater.

However, the groundwater recharge program implemented by Public Works has been spreading recycled water for the past 40 years with very little public concern. This may be due to the fact that a majority of these types of contaminants are known to be biodegradable, by the microorganisms naturally existing in soils, as recycled water is percolated through the soil layers. The lack of public concern may also stem from the length of time this project has been around, and the fact that it is not normally discussed in the media. Today, the issues of "emerging contaminants" are addressed and assessed by the Office of Environmental Health Hazard Assessment along with the Department of Health Services.

Public Perception

Public support is important in developing recycling projects. Historically, many projects that utilize recycled water for direct, nonpotable reuse such as landscaping have been implemented without the need for significant public participation. However, more recently, several Public Works projects have become involved in controversies that halted implementation efforts. These projects focused mainly on indirect potable reuse, where the recycled water became part of the drinking water sources.

Local Regulations and Policies Established for Recycled Water

County of Los Angeles

The County has no adopted ordinances mandating the use of recycled water. However, your Board has gone on record in support of principles and specific legislation that dealt with recycled water issues.

In 1987, your Board adopted the Southern California Water Policy as developed by the Southern California Water Committee. The policy focused on four main issues: reliability of supply, preservation of quality, commitment to conservation, and affordability. As a commitment to conservation, it supported recycling and reuse where cost-effective.

In November 1991, your Board adopted Water Policy Objectives for the County of Los Angeles prepared by the Los Angeles County Water Advisory Commission. These objectives were reflected in a set of recommendations covering two legislative issues, 10 advocacy issues and 15 operational items that directly influenced water resources in the County of Los Angeles. Among the recommendations presented were the support for legislation, which encouraged the suitable use of recycled water in place of potable water and increased involvement by the County in projects utilizing recycled water.

March 22, 1994, your Board voted to support legislation which allowed the Sanitation Districts of Los Angeles County to use recycled water for onsite nondomestic water use and at the Puente Hills Landfill. This legislation changed the Public Utilities Code by creating an exemption to the Service Duplication Law in the County of Los Angeles.

Other Local Agencies

In the County of Los Angeles, the City of Glendale was the only city found to have an ordinance governing recycled water use. The city ordinance requires recycled water to be used where feasible, appropriate, and acceptable to all applicable regulatory agencies for the purpose of landscape irrigation, agricultural irrigation, filling of decorative fountains, in office buildings for toilet flushing, construction water, industrial process water, recreational/ornamental impoundments or other uses permitted by the regulatory agencies.

The Castaic Lake Water Agency has asked the County Department of Regional Planning to have each new development within its service area be examined for the potential use of

recycled water and that early on in the development phase, developers consult with the water agency on potential use of recycled water.

The Irvine Ranch Water District's (IRWD) Rules and Regulations for Water, Sewer, and Recycled Water Services have set forth provisions that identified the authorized uses for recycled water including landscape irrigation, agricultural irrigation, construction water, industrial process water, cooling tower makeup water, and water for flushing toilets and urinals in high rise buildings.

The County of San Diego prohibits the use of water from any source of quality suitable for potable domestic use for nonpotable uses including irrigation of greenbelt areas, highway landscaped areas, flushing of toilets and urinals in nonresidential structures, and industrial uses if suitable recycled water is available. This prohibition shall only apply to discretionary land use permits. As part of the process to issue these permits, a review of the Water Recycling Plan for the area will be completed to determine if the subject property will be required to be served with recycled water.

The City of San Diego has established a policy to use reclaimed (or recycled) water wherever feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

State and Regional Planning Efforts in Promoting Water Reuse

Water Recycling 2030 Report

California's Recycled Water Task Force "Water Recycling 2030 Report" identifies opportunities for California to increase its recycled water usage. The report focuses on issues and solutions that contribute the most in creating opportunities for recycled water uses. The report reinforces the need for the appropriate agencies to display a commitment to fulfill the recommendations as presented in the report to promote and increase water reuse.

The Recycled Water Task Force identified recycled water as a significant source of water for the State of California. It identified 26 issues and adopted recommendations to address obstacles, impediments, and opportunities for the State and local agencies to increase its use of recycled water. The study seeks to improve the way all levels of government approach the use of recycled water and to assist each other and the public to enhance the ability for cost-effective and safe recycled water projects to be developed. While the time frames and recommendations contained in the report appear realistic, many factors and priorities come into play when these recommendations are to be considered by the various entities. Presently, none of the local agencies involved in developing of the Recycled Water Task Force "Water Recycling 2030 Report" have taken any formal adoption positions of its recommendations. With the exception of AB 334 (Goldberg), which allows local control over self-generating water softeners that are increasing salt levels in recycled water supplies, the legislature has not initiated any legislation in response to the report.

Southern California Comprehensive Water Reclamation And Reuse Study

In the Phase II analyses of this study, 34 projects distributed across Southern California were identified for short-term implementation. Of the 34 projects, 15 were identified as regional projects and the remaining 19 as single-agency projects. West Basin and Central Basin contain 2 of the 15 regional projects identified within the County of Los Angeles. With respect to single-agency projects, 6 of the 19 identified (Alamitos, Burbank, Los Angeles/Glendale, Long Beach, Long Beach Wetlands, and San Fernando Valley) are located within the County of Los Angeles.

Recommendations

Over the past ten years, policymakers working together with State and local stakeholders have made significant steps toward developing Statewide policy to provide institutional, financial, and regulatory support for the use of recycled water. With the Water Recycling Act of 1991 (Water Code 13575-13583) and the Water Recycling in Landscaping Act (Government Code 65601-65607) in place, State and local governing bodies are provided with legislative guidelines on the enforcement, implementation, and promotion of recycled water uses. In the County of Los Angeles, water suppliers both at the wholesale and retail levels understand the urgency to maximize use of all available local supplies that can offset the demand of a growing population faced with a diminishing imported water supply. Recycled water producers in the County of Los Angeles have established ambitious goals to reach 265,000 AF of recycled water usage by 2010.

In Los Angeles County, the use of recycled water has been predominantly focused in the areas of landscaping, groundwater replenishment and injection into seawater barriers. The County Department of Public Works has been recharging the Central Basin with recycled water provided by the County Sanitation Districts for over 41 years. The County Department of Parks and Recreation, working together with the County Sanitation Districts and other recycled water agencies, has developed infrastructure to expand the use of recycled water at the County's regional parks, local parks, golf courses, and arboretums. Although agencies throughout the County have been proactive and have plans to continue efforts in maximizing recycled water use, these efforts are being pursued independent of a Countywide coordinated strategy and actual implementation efforts vary from each facility and have been inconsistent due to the lack of an adopted County policy on recycled water use.

Expanding the use of recycled water is generally accepted as necessary to ensure efficient use of our local supplies. A Countywide policy that would require use of recycled water at County golf courses, parks, and other large expansive greenbelts, would recognize the County's leadership role in the use of recycled water and create a coherent, well-defined policy promoting the efficient and safe use of recycled water. This policy would be consistent with the recommendations of California's Recycled Water Task Force, "Water Recycling 2030" report.

The Department of Public Works together with the Department of Parks and Recreation, the Internal Services Department, and the CAO are recommending:

Recommendation:

Adopt as policy of the County of Los Angeles that recycled water be used for irrigation at County parks and golf courses, and on County-maintained parkways and other large expansive greenbelts where the use of such recycled water is available and cost-effective and meets the other requirements as set forth in the Government, Water, and Health and Safety Codes.

In order to establish consistency and evaluate opportunities to expand recycled water use and due to the complex nature of issues surrounding the development of a broad-based, well-defined Countywide policy, a task force should be created to develop such a policy and recommendations on the expansion of the use of recycled water within the County of Los Angeles.

The Task Force should address, but not be limited to, discussion of the following issues:

- Coordinate with all County Departments to identify potential uses of recycled water at all County-owned facilities
- Compile a list of County-owned facilities along with the type(s) of potential recycled water uses and infrastructure requirements
- Evaluate the use of recycled water at County-owned facilities
- Evaluate the feasibility for uses of recycled water for toilet and urinal flushing in nonresidential and other designated structures
- Evaluate the expanded uses of recycled water for industrial and irrigation uses, and residential landscapes
- Where appropriate, recommend practicable and implementable changes in the current regulatory framework of regulations, ordinances, and permits appropriate to increasing the use of recycled water for governmental, commercial, and residential structures
- Evaluate the development of well-defined local recycled water ordinances for new developments
- Identify State and Federal funding programs that could provide financial support to recycled water uses and projects
- Study and present financial incentives that promote government, commercial, and residential uses of recycled water
- Draft a Countywide recycled water policy to be adopted by the Board based on the Task Force's findings
- Develop a phased approach for the implementation of the Countywide recycled water policy

The proposed Task Force should be comprised of representatives from the County Departments of Health Services, Internal Services, Parks and Recreation, Beaches and Harbors, Regional Planning, Public Works, the County CAO, County Counsel, City of

Los Angeles, and the Sanitation Districts. The task force will also work closely with other agencies such as the City of Los Angeles Department of Water and Power, Castaic Lake Water Agency, Water Replenishment District of Southern California, and Central and West Basin Municipal Water Districts. Members of the proposed task force will be responsible for collecting and analyzing information from County Departments and County facilities required for the development of Countywide recycled water policy.

California's Recycled Water Task Force "Water Recycling 2030 Report" identifies opportunities for California to increase its recycled water usage. It focuses on solutions that make the most difference in creating opportunities for recycled water uses. Appropriate agencies need to display a commitment to fulfill these recommendations. Therefore, the task force should also be guided by recommendations contained in "Water Recycling 2030".

The Department of Public Works together with the Department of Parks and Recreation, the Internal Services Department and the CAO are recommending:

Recommendation :

That the Board establish a Countywide Task Force to more fully assess the complex nature of issues surrounding the development of a broader Countywide policy for the use of recycled water for nonpotable purposes and to develop a well-defined policy on the use of recycled water. The task force should be guided by the appropriate recommendations of California's Recycled Water Task Force, "Water Recycling 2030" report. The task force should provide an initial report back to the Board within six months with additional policy recommendations and with recommendations for ordinance changes to be presented to the Board for adoption within one year.

In its report to the State Legislature, the Governor's Recycled Water Task Force identified recycled water as a significant source of water for the State of California. It identified 26 issues and adopted recommendations to address obstacles, impediments, and opportunities for the State and local agencies to increase its use of recycled water. The study seeks to improve the way all levels of government approach the use of recycled water and to assist each other and the public to enhance the ability for cost-effective and safe recycled water projects to be developed. While the time frames and recommendations contained in the report appear realistic, many factors and priorities affect the various responsible entities' ability to implement these recommendations. Presently, none of the local agencies involved in the development of the Recycled Water Task Force "Water Recycling 2030 Report" have taken any formal adoption positions. With the exception of AB 334, the State Legislature has not adopted any recommendations of the Task Force.

Recommendation:

Direct Public Works to monitor any State legislation regarding recommendations of California's Recycled Water Task force and, when appropriate, report to the Board with specific recommendations.

Attachment
Water Code
Section 13550-13556
Section 13575-13583
Government Code
Section 65591-65600
Section 65601-65607

WATER CODE
SECTION 13550-13556

13550. (a) The Legislature hereby finds and declares that the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available which meets all of the following conditions, as determined by the state board, after notice to any person or entity who may be ordered to use recycled water or to cease using potable water and a hearing held pursuant to Article 2 (commencing with Section 648) of Chapter 1.5 of Division 3 of Title 23 of the California Code of Regulations:

(1) The source of recycled water is of adequate quality for these uses and is available for these uses. In determining adequate quality, the state board shall consider all relevant factors, including, but not limited to, food and employee safety, and level and types of specific constituents in the recycled water affecting these uses, on a user-by-user basis. In addition, the state board shall consider the effect of the use of recycled water in lieu of potable water on the generation of hazardous waste and on the quality of wastewater discharges subject to regional, state, or federal permits.

(2) The recycled water may be furnished for these uses at a reasonable cost to the user. In determining reasonable cost, the state board shall consider all relevant factors, including, but not limited to, the present and projected costs of supplying, delivering, and treating potable domestic water for these uses and the present and projected costs of supplying and delivering recycled water for these uses, and shall find that the cost of supplying the treated recycled water is comparable to, or less than, the cost of supplying potable domestic water.

(3) After concurrence with the State Department of Health Services, the use of recycled water from the proposed source will not be detrimental to public health.

(4) The use of recycled water for these uses will not adversely affect downstream water rights, will not degrade water quality, and is determined not to be injurious to plantlife, fish, and wildlife.

(b) In making the determination pursuant to subdivision (a), the state board shall consider the impact of the cost and quality of the nonpotable water on each individual user.

(c) The state board may require a public agency or person subject to this article to furnish information which the state board determines to be relevant to making the determination required in subdivision (a).

13551. A person or public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, shall not use water from any source of quality suitable for potable domestic use for nonpotable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available as provided in Section 13550; however, any use of recycled

water in lieu of water suitable for potable domestic use shall, to the extent of the recycled water so used, be deemed to constitute a reasonable beneficial use of that water and the use of recycled water shall not cause any loss or diminution of any existing water right.

13552. The amendments to Sections 13550 and 13551 of the Water Code made during the first year of the 1991-92 Regular Session are not intended to alter any rights, remedies, or obligations which may exist prior to January 1, 1992, pursuant to, but not limited to, those sections or Chapter 8.5 (commencing with Section 1501) of Part 1 of Division 1 of the Public Utilities Code.

13552.2. (a) The Legislature hereby finds and declares that the use of potable domestic water for the irrigation of residential landscaping is a waste or an unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water, for this use, is available to the residents and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to submit information that the state board determines may be relevant in making the determination required in subdivision (a).

13552.4. (a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water for irrigation of residential landscaping, if all of the following requirements are met:

(1) Recycled water, for this use, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) The irrigation systems are constructed in accordance with Chapter 3 (commencing with Section 60301) of Division 4 of Title 22 of the California Code Regulations.

(b) This section applies to both of the following:

(1) New subdivisions for which the building permit is issued on or after March 15, 1994, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1994, for which the State Department of Health Services has approved the use of recycled water.

(2) Any residence that is retrofitted to permit the use of recycled water for landscape irrigation and for which the State Department of Health Services has approved the use of recycled water.

(c) (1) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water for irrigation of residential landscaping necessary to comply with a requirement prescribed by a public agency under subdivision (a).

(2) The exemption in paragraph (1) does not apply to any project

to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

13552.6. (a) The Legislature hereby finds and declares that the use of potable domestic water for floor trap priming, cooling towers, and air-conditioning devices is a waste or an unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water, for these uses, is available to the user, and the water meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to submit information that the state board determines may be relevant in making the determination required in subdivision (a).

13552.8. (a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water in floor trap priming, cooling towers, and air-conditioning devices, if all of the following requirements are met:

(1) Recycled water, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) If public exposure to aerosols, mist, or spray may occur, appropriate mist mitigation or mist control is provided, such as the use of mist arrestors or the addition of biocides to the water in accordance with criteria established pursuant to Section 13521.

(4) The person intending to use recycled water has prepared an engineering report pursuant to Section 60323 of Title 22 of the California Code of Regulations that includes plumbing design, cross-connection control, and monitoring requirements for the public agency, which are in compliance with criteria established pursuant to Section 13521.

(b) This section applies to both of the following:

(1) New industrial facilities and subdivisions for which the building permit is issued on or after March 15, 1994, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1994, for which the State Department of Health Services has approved the use of recycled water.

(2) Any structure that is retrofitted to permit the use of recycled water for floor traps, cooling towers, or air-conditioning devices, for which the State Department of Health Services has approved the use of recycled water.

(c) (1) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water for floor trap priming, cooling towers, or air-conditioning devices necessary to comply with a requirement prescribed by a public agency under subdivision (a).

(2) The exemption in paragraph (1) does not apply to any project to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

13553. (a) The Legislature hereby finds and declares that the use of potable domestic water for toilet and urinal flushing in structures is a waste or an unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to furnish whatever information may be relevant to making the determination required in subdivision (a).

(c) For the purposes of this section and Section 13554, "structure" or "structures" means commercial, retail, and office buildings, theaters, auditoriums, schools, hotels, apartments, barracks, dormitories, jails, prisons, and reformatories, and other structures as determined by the State Department of Health Services.

(d) Nothing in this section or Section 13554 applies to a pilot program adopted pursuant to Section 13553.1.

13553.1. (a) The Legislature hereby finds and declares that certain coastal areas of the state have been using sea water to flush toilets and urinals as a means of conserving potable water; that this practice precludes the beneficial reuse of treated wastewater and has had a deleterious effect on the proper wastewater treatment process, and has led to corrosion of the sea water distribution pipelines and wastewater collection systems; and that this situation must be changed.

(b) There is a need for a pilot program to demonstrate that conversion to the use of recycled water in residential buildings for toilet and urinal flushing does not pose a threat to public health and safety.

(c) A city that is providing a separate distribution system for sea water for use in flushing toilets and urinals in residential structures may, by ordinance, authorize the use of recycled water for the flushing of toilets and urinals in residential structures if the level of treatment and the use of the recycled water meets the criteria set by the State Department of Health Services.

13554. (a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water for toilet and urinal flushing in structures, except a mental hospital or other facility operated by a public agency for the treatment of persons with mental disorders, if all of the following requirements are met:

(1) Recycled water, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) The public agency has prepared an engineering report pursuant to Section 60323 of Title 22 of the California Code of Regulations that includes plumbing design, cross-connection control, and monitoring requirements for the use site, which are in compliance with criteria established pursuant to Section 13521.

(b) This section applies only to either of the following:

(1) New structures for which the building permit is issued on or

after March 15, 1992, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1992.

(2) Any construction pursuant to subdivision (a) for which the State Department of Health Services has, prior to January 1, 1992, approved the use of recycled water.

(c) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water by a structure necessary to comply with a requirement issued by a public agency under subdivision (a). This exemption does not apply to any project to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

13554.2. (a) Any person or entity proposing the use of recycled water shall reimburse the State Department of Health Services for reasonable costs that department actually incurs in performing duties pursuant to this chapter.

(b) (1) Upon a request from the person or entity proposing the use of recycled water, the State Department of Health Services shall, within a reasonable time after the receipt of the request, provide an estimate of the costs that it will reasonably incur in the performance of its duties pursuant to this chapter.

(2) For purposes of implementing subdivision (a), that department shall maintain a record of its costs. In determining those costs, that department may consider costs that include, but are not limited to, costs relating to personnel requirements, materials, travel, and office overhead. The amount of reimbursement shall be equal to, and may not exceed, that department's actual costs.

(c) With the consent of the person or entity proposing the use of recycled water, the State Department of Health Services may delegate all or part of the duties that department performs pursuant to this chapter within a county to a local health agency authorized by the board of supervisors to assume these duties, if, in the judgment of that department, the local health agency can perform these duties. Any person or entity proposing the use of recycled water shall reimburse the local health agency for reasonable costs that the local health agency actually incurs in the performance of its duties delegated pursuant to this subdivision.

(d) (1) Upon a request from the person or entity proposing the use of recycled water, the local health agency shall, within a reasonable time after the receipt of the request, provide an estimate of the cost it will reasonably incur in the performance of its duties delegated under subdivision (c).

(2) The local health agency, if delegated duties pursuant to subdivision (c), shall maintain a record of its costs that include, but is not limited to, costs relating to personnel requirements, materials, travel, and office overhead. The amount of reimbursement shall be equal to, and may not exceed, the local health agency's actual costs.

(e) The State Department of Health Services or local health agency shall complete its review of a proposed use of recycled water within a reasonable period of time. That department shall submit to the person or entity proposing the use of recycled water a written determination as to whether the proposal submitted is complete for purposes of review within 30 days from the date of receipt of the proposal and shall approve or disapprove the proposed use within 30 days from the date on which that department determines that the

proposal is complete.
(f) An invoice for reimbursement of services rendered shall be submitted to the person or entity proposing the use of recycled water subsequent to completion of review of the proposed use, or other services rendered, that specifies the number of hours spent by the State Department of Health Services or local health agency, specific tasks performed, and other costs actually incurred. Supporting documentation, including receipts, logs, timesheets, and other standard accounting documents, shall be maintained by that department or local health agency and copies, upon request, shall be provided to the person or entity proposing the use of recycled water.
(g) For the purposes of this section, "person or entity proposing the use of recycled water" means the producer or distributor of recycled water submitting a proposal to the department.

13554.3. The State Water Resources Control Board may establish a reasonable schedule of fees by which it is reimbursed for the costs it incurs pursuant to Sections 13553 and 13554.

13555.2. The Legislature hereby finds and declares that many local agencies deliver recycled water for nonpotable uses and that the use of recycled water is an effective means of meeting the demands for new water caused by drought conditions or population increases in the state. It is the intent of the Legislature to encourage the design and construction of water delivery systems on private property that deliver water for both potable and nonpotable uses in separate pipelines.

13555.3. (a) Water delivery systems on private property that could deliver recycled water for nonpotable uses described in Section 13550, that are constructed on and after January 1, 1993, shall be designed to ensure that the water to be used for only potable domestic uses is delivered, from the point of entry to the private property to be served, in a separate pipeline which is not used to deliver the recycled water.
(b) This section applies to water delivery systems on private property constructed within either of the following jurisdictions:
(1) One that has an urban water management plan that includes the intent to develop recycled water use.
(2) One that does not have an urban water management plan that includes recycled water use, but that is within five miles of a jurisdiction that does have an urban water management plan that includes recycled water use, and has indicated a willingness to serve the water delivery system.
(c) This section does not preempt local regulation of the delivery of water for potable and nonpotable uses and any local governing body may adopt requirements which are more restrictive than the requirements of this section.

13556. In addition to any other authority provided in law, any water supplier described in subdivision (b) of Section 1745 may acquire, store, provide, sell, and deliver recycled water for any beneficial use, including, but not limited to, municipal, industrial,

domestic, and irrigation uses, if the water use is in accordance with statewide recycling criteria and regulations established pursuant to this chapter.

WATER CODE
SECTION 13575-13583

13575. (a) This chapter shall be known and may be cited as the Water Recycling Act of 1991.

(b) As used in this chapter, the following terms have the following meanings:

(1) "Customer" means a person or entity that purchases water from a retail water supplier.

(2) "Entity responsible for groundwater replenishment" means any person or entity authorized by statute or court order to manage a groundwater basin and acquire water for groundwater replenishment.

(3) "Recycled water" has the same meaning as defined in subdivision (n) of Section 13050.

(4) "Recycled water producer" means any local public entity that produces recycled water.

(5) "Recycled water wholesaler" means any local public entity that distributes recycled water to retail water suppliers and which has constructed, or is constructing, a recycled water distribution system.

(6) "Retail water supplier" means any local entity, including a public agency, city, county, or private water company, that provides retail water service.

(7) "Retailer" means the retail water supplier in whose service area is located the property to which a customer requests the delivery of recycled water service.

13576. The Legislature hereby makes the following findings and declarations:

(a) The State of California is subject to periodic drought conditions.

(b) The development of traditional water resources in California has not kept pace with the state's population, which is growing at the rate of over 700,000 per year and which is anticipated to reach 36 million by the year 2010.

(c) There is a need for a reliable source of water for uses not related to the supply of potable water to protect investments in agriculture, greenbelts, and recreation and to replenish groundwater basins, and protect and enhance fisheries, wildlife habitat, and riparian areas.

(d) The environmental benefits of recycled water include a reduced demand for water in the Sacramento-San Joaquin Delta which is otherwise needed to maintain water quality, reduced discharge of waste into the ocean, and the enhancement of groundwater basins, recreation, fisheries, and wetlands.

(e) The use of recycled water has proven to be safe from a public health standpoint, and the State Department of Health Services is updating regulations for the use of recycled water.

(f) The use of recycled water is a cost-effective, reliable method of helping to meet California's water supply needs.

(g) The development of the infrastructure to distribute recycled water will provide jobs and enhance the economy of the state.

(h) Retail water suppliers and recycled water producers and wholesalers should promote the substitution of recycled water for potable water and imported water in order to maximize the appropriate

cost-effective use of recycled water in California.

(i) Recycled water producers, retail water suppliers, and entities responsible for groundwater replenishment should cooperate in joint technical, economic, and environmental studies, as appropriate, to determine the feasibility of providing recycled water service.

(j) Retail water suppliers and recycled water producers and wholesalers should be encouraged to enter into contracts to facilitate the service of recycled and potable water by the retail water suppliers in their service areas in the most efficient and cost-effective manner.

(k) Recycled water producers and wholesalers and entities responsible for groundwater replenishment should be encouraged to enter into contracts to facilitate the use of recycled water for groundwater replenishment if recycled water is available and the authorities having jurisdiction approve its use.

(l) Wholesale prices set by recycled water producers and recycled water wholesalers, and rates that retail water suppliers are authorized to charge for recycled water, should reflect an equitable sharing of the costs and benefits associated with the development and use of recycled water.

13577. This chapter establishes a statewide goal to recycle a total of 700,000 acre-feet of water per year by the year 2000 and 1,000,000 acre-feet of water per year by the year 2010.

13578. (a) In order to achieve the statewide goal for recycled water use established in Section 13577 and to implement the Governor's Advisory Drought Planning Panel Critical Water Shortage Contingency Plan recommendations, Section F2, as submitted December 29, 2000, the department shall identify and report to the Legislature on opportunities for increasing the use of recycled water, as defined in paragraph (3) of subdivision (b) of Section 13575, and identify constraints and impediments, including the level of state financial assistance available for project construction, to increasing the use of recycled water.

(b) The department shall convene a task force, to be known as the 2002 Recycled Water Task Force, to advise the department in implementation of subdivision (a), including making recommendations to the Legislature regarding the following:

(1) How to further the use of recycled water in industrial and commercial applications, including, but not limited to, those applications set forth in Section 13552.8. The task force shall evaluate the current regulatory framework of state and local rules, regulations, ordinances, and permits to identify the obstacles and disincentives to industrial and commercial reuse. Issues to be investigated include, but are not limited to, applicability of visual inspections instead of pressure tests for cross-connections between potable and nonpotable water systems, dual piping trenching restrictions, fire suppression system design, and backflow protections.

(2) Changes in the Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials, that are appropriate to facilitate the use of recycled water in industrial and commercial settings. The department shall make recommendations to the California Building Standards Commission with regard to suggested revisions to the California Plumbing Code necessary to

incorporate the changes identified by the task force.

(3) Changes in state statutes or the current regulatory framework of state and local rules, regulations, ordinances, and permits appropriate to increase the use of recycled water for commercial laundries and toilet and urinal flushing in structures including, but not limited to, those defined in subdivision (c) of Section 13553. The department shall identify financial incentives to help offset the cost of retrofitting privately and publicly owned structures.

(4) The need to reconvene the California Potable Reuse Committee established by the department in 1993 or convene a successor committee to update the committee's finding that planned indirect potable reuse of recycled water by augmentation of surface water supplies would not adversely affect drinking water quality if certain conditions were met.

(5) The need to augment state water supplies using water use efficiency strategies identified in the CALFED Bay-Delta Program. In its report pursuant to subdivision (a), the department shall identify ways to coordinate with CALFED to assist local communities in educating the public with regard to the statewide water supply benefits of local recycling projects and the level of public health protection ensured by compliance with the uniform statewide water recycling criteria developed by the State Department of Health Services in accordance with Section 13521.

(6) Impediments or constraints, other than water rights, related to increasing the use of recycled water in applications for agricultural, environmental, or irrigation uses, as determined by the department.

(c) (1) The task force shall be convened by the department and be comprised of one representative from each of the following state agencies:

(A) The department.

(B) The State Department of Health Services.

(C) The state board.

(D) The California Environmental Protection Agency.

(E) The CALFED Bay-Delta Program.

(F) The Department of Food and Agriculture.

(G) The Building Standards Commission.

(H) The University of California.

(I) The Resources Agency.

(2) The task force shall also include one representative from a recognized environmental advocacy group and one representative from a consumer advocacy group, as determined by the department, and one representative of local agency health officers, one representative of urban water wholesalers, one representative from a groundwater management entity, one representative of water districts, one representative from a nonprofit association of public and private members created to further the use of recycled water, one representative of commercial real estate, one representative of land development, one representative of industrial interests, and at least two representatives from each of the following as defined in Section 13575:

(A) Recycled water producer.

(B) Recycled water wholesaler.

(C) Retail water supplier.

(d) The department and the task force shall report to the Legislature not later than July 1, 2003.

(e) The department shall carry out the duties of this section only to the extent that funds pursuant to Section 79145, enacted as part of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Act (Division 26 (commencing with Section 79000)),

are made available for the purposes of this section.

13579. (a) In order to achieve the goals established in Section 13577, retail water suppliers shall identify potential uses for recycled water within their service areas, potential customers for recycled water service within their service areas, and, within a reasonable time, potential sources of recycled water.

(b) Recycled water producers and recycled water wholesalers may also identify potential uses for recycled water, and may assist retail water suppliers in identifying potential customers for recycled water service within the service areas of those retail water suppliers.

(c) Recycled water producers, retail water suppliers, and entities responsible for groundwater replenishment may cooperate in joint technical, economic, and environmental studies, as appropriate, to determine the feasibility of providing recycled water service and recycled water for groundwater replenishment consistent with the criteria set forth in paragraphs (1) to (3), inclusive, of subdivision (a) of Section 13550 and in accordance with Section 60320 of Title 22 of the California Code of Regulations.

13580. (a) A retail water supplier that has identified a potential use or customer pursuant to Section 13579 may apply to a recycled water producer or recycled water wholesaler for a recycled water supply.

(b) A recycled water producer or recycled water wholesaler that has identified a potential use or customer pursuant to Section 13579 may, in writing, request a retail water supplier to enter into an agreement to provide recycled water to the potential customer.

(c) A customer may request, in writing, a retailer to enter into an agreement to provide recycled water to the customer.

(d) (1) An entity responsible for groundwater replenishment that is a customer of a retail water supplier and that has identified the potential use of recycled water for groundwater replenishment purposes may, in writing, request that retail water supplier to enter into an agreement to provide recycled water for that purpose. That entity may not obtain recycled water for that purpose from a recycled water producer, a recycled water wholesaler, or another retail water supplier without the agreement of the entity's retail water supplier.

(2) An entity responsible for groundwater replenishment that is not a customer of a retail water supplier and that has identified the potential use of recycled water for groundwater replenishment purposes may, in writing, request a retail water supplier, a recycled water producer, or a recycled water wholesaler to enter into an agreement to provide recycled water for that purpose.

13580.5. (a) (1) Subject to subdivision (e) of Section 13580.7, a retail water supplier that receives a request from a customer pursuant to subdivision (c) of Section 13580 shall enter into an agreement to provide recycled water, if recycled water is available, or can be made available, to the retail water supplier for sale to the customer.

(2) Notwithstanding paragraph (1), in accordance with a written agreement between a recycled water producer or a recycled water wholesaler and a retail water supplier, the retail water supplier may delegate to a recycled water producer or a recycled water wholesaler its responsibility under this section to provide recycled water.

(b) A customer may not obtain recycled water from a recycled water producer, a recycled water wholesaler, or a retail water supplier that is not the retailer without the agreement of the retailer.

(c) If either a recycled water producer or a recycled water wholesaler provides a customer of a retail water supplier with a written statement that it can and will provide recycled water to the retailer, the retail water supplier shall, not later than 120 days from the date on which the retail water supplier receives the written statement from the customer, by certified mail, return receipt requested, submit a written offer to the customer. A determination of availability pursuant to Section 13550 is not required.

(d) If the state board pursuant to Section 13550 makes a determination that there is available recycled water to serve a customer of a retail water supplier, the retail water supplier, not later than 120 days from the date on which the retail water supplier receives a copy of that determination from the customer, by certified mail, return receipt requested, shall submit a written offer to the customer.

13580.7. (a) This section applies only to a retail water supplier that is a public agency.

(b) A customer may request, in writing, a retail water supplier to enter into an agreement or adopt recycled water rates in order to provide recycled water service to the customer. The retail water supplier, by certified mail return receipt requested, shall submit a written offer to the customer not later than 120 days from the date on which the retail water supplier receives the written request from the customer.

(c) If no rate is in effect for recycled water service within the service area of a retail water supplier, the rate and conditions for recycled water service shall be established by contract between the retail water supplier and the customer, not later than 120 days from the date on which the customer requests a contract, or, by resolution or ordinance by the retail water supplier, not later than 120 days from the date on which the retail water supplier receives the customer's written request for an ordinance or resolution.

(d) A rate for recycled water service established by contract, ordinance, or resolution, shall reflect a reasonable relationship between the amount of the rate and the retail cost of obtaining or producing the recycled water, the cost of conveying the recycled water, and overhead expenses for providing recycled water service. Capital costs of facilities required to serve the customer shall be amortized over the economic life of the facility, or the length of time the customer agrees to purchase recycled water, whichever is less. The rate shall not exceed the estimated reasonable cost of providing the service, and any additional costs agreed to by the customer for recycled water supplemental treatment.

(e) The rate for recycled water shall be comparable to, or less than, the retail water supplier's rate for potable water. If recycled water service cannot be provided at a rate comparable to, or less than, the rate for potable water, the retail water supplier is not required to provide the recycled water service, unless the customer agrees to pay a rate that reimburses the retail water supplier for the costs described in subdivision (c).

(f) The offer required by subdivisions (c) and (d) of Section 13580.5 shall identify all of the following:
(1) The source for the recycled water.
(2) The method of conveying the recycled water.
(3) A schedule for delivery of the recycled water.
(4) The terms of service.
(5) The rate for the recycled water, including the per-unit cost for that water.
(6) The costs necessary to provide service and the basis for determining those costs.
(g) This section does not apply to recycled water service rates established before January 1, 1999, or any amendments to those rates.

13580.8. (a) This section applies only to a retail water supplier that is regulated by the Public Utilities Commission.
(b) Rates for recycled water that is provided to the customer by a retail water supplier regulated by the Public Utilities Commission shall be established by the commission pursuant to Section 455.1 of the Public Utilities Code. A regulated water utility may request the commission to establish the rate or rates for the delivery of recycled or nonpotable water, with the objective of providing, where practicable, a reasonable economic incentive for the customer to purchase recycled or nonpotable water in place of potable water.
(c) A regulated water utility may propose a rate or rates for recycled or nonpotable water by tariff or by contract between the retail water supplier and the customer. Where the rate or rates are set by contract, the water utility and its customer shall meet, confer, and negotiate in good faith to establish a contract rate.
(d) The commission shall, as appropriate, provide a discount from the general metered rate of the water utility for potable water by either of the following means:
(1) Passing through to the customer the net reduction in cost to the water utility in purchasing and delivering recycled or nonpotable water as compared to the cost of purchasing and delivering potable water.
(2) Granting to the customer a uniform discount from the water utility's general metered potable water rate when the discount in paragraph (1) is determined to be an insufficient incentive for the customer to convert to the use of recycled or nonpotable water. If the commission provides for a discount pursuant to this paragraph that is greater than the water utility's reduction in cost, the commission shall authorize the water utility to include the aggregate amount of that discount in its revenue requirements to be applied to, and recovered in, rates that are applicable to all general metered customers.

13580.9. (a) Notwithstanding any other provision of law, and except as otherwise previously provided for in a contract agreed to by the customer and the City of West Covina, if the purchaser, contractor, or lessee of, or successor to, all or a portion of the water utility owned by the City of West Covina is a retail water supplier that is regulated by the Public Utilities Commission, rates for recycled or nonpotable water service to a closed hazardous waste and solid waste facility located within the boundaries of the City of West Covina for the purposes of irrigation, recreation, or dust suppression or any other use at that facility shall be established in accordance with

subdivisions (a) to (e), inclusive, of Section 13580.7, and if there is a failure to agree on the terms and conditions of a recycled or nonpotable water supply agreement for the delivery of water for those purposes by that purchaser, contractor, lessee, or successor, Section 13581 shall apply.

(b) For the purpose of this section, nonpotable water that is not the result of the treatment of waste shall be treated as the equivalent of recycled water if it is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefor considered a valuable resource, if the use of that water will not adversely affect downstream water rights, degrade water quality, or be injurious to plant life, fish, or wildlife, as provided by statute or by regulations of the State Department of Health Services and the state board or a regional board, as appropriate.

13581. (a) If there is a failure to agree on terms and conditions of a recycled water supply agreement involving a retail water supplier that is a public agency within 180 days from the date of the receipt of a request for recycled water pursuant to subdivision (c) of Section 13580, a written statement pursuant to subdivision (c) of Section 13580.5, or a determination of availability pursuant to subdivision (d) of Section 13580.5, any party may request a formal mediation process. The parties shall commence mediation within 60 days after the mediation request is made. If the parties cannot agree on a mediator, the director shall appoint a mediator. The mediator may recommend to the parties appropriate terms and conditions applicable to the service of recycled water. The cost for the services of the mediator shall be divided equally among the parties to the mediation and shall not exceed twenty thousand dollars ($20,000).

(b) If the parties in mediation reach agreement, both parties together shall draft the contract for the recycled water service. The parties shall sign the contract within 30 days.

(c) If the parties in mediation fail to reach agreement, the affected retail water supplier shall, within 30 days, by resolution or ordinance, adopt a rate for recycled water service. The agency action shall be subject to validating proceedings pursuant to Chapter 9 (commencing with Section 860) of Part 2 of Title 10 of the Code of Civil Procedure, except that there shall not be a presumption in favor of the retail water supplier under the action taken to set the rate for recycled water service. The mediator shall file a report with the superior court setting forth the recommendations provided to the parties regarding appropriate terms and conditions applicable to the service of recycled water. Each party shall bear its own costs and attorney's fees.

13581.2. If the retail water supplier is regulated by the Public Utilities Commission, and there is a failure to agree on terms and conditions of a recycle water supply agreement with a customer within 180 days from the date of the receipt of a request for recycled water pursuant to subdivision (c) of Section 13580, a written statement pursuant to subdivision (c) of Section 13580.5, or a determination of availability pursuant to subdivision (d) of Section 13580.5, the matter shall be submitted to the Public Utilities Commission for resolution, and the commission shall determine a contract rate or rates for recycled water as provided in Section 13580.8.

13582. This chapter is not intended to alter either of the following:

(a) Any rights, remedies, or obligations which may exist pursuant to Article 1.5 (commencing with Section 1210) of Chapter 1 of Part 2 of Division 2 of this code or Chapter 8.5 (commencing with Section 1501) of Part 1 of Division 1 of the Public Utilities Code.

(b) Any rates established or contracts entered into prior to January 1, 1999.

13583. (a) If a retail water supplier that is a public agency does not comply with this chapter, the customer may petition a court for a writ of mandate pursuant to Chapter 2 (commencing with Section 1084) of Title 1 of Part 3 of the Code of Civil Procedure.

(b) If a retail water supplier is regulated by the Public Utilities Commission and does not comply with this chapter, the Public Utilities Commission may order the retailer to comply with this chapter after receiving a petition from the customer specifying the provisions of this chapter with which the retailer has failed to comply.

GOVERNMENT CODE
SECTION 65591-65600

65591. This article may be cited and shall be known as the Water Conservation in Landscaping Act.

65591.2. The Legislature finds and declares all of the following:

(a) The waters of the state are of limited supply and are subject to ever increasing demands.

(b) The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.

(c) It is the policy of the state to promote the conservation and efficient use of water and to prevent the waste of this valuable resource.

(d) Landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development.

(e) Landscape design, installation, and maintenance can and should be water efficient.

65591.5. (a) It is the intent of the Legislature that the Department of Water Resources prepare and promote the use of a model water efficient landscape ordinance which local agencies may adopt.

(b) It is the intent of the Legislature that the Department of Water Resources adopt a model water efficient landscape ordinance based on recommendations from a task force representing the landscape, water, and building industries, local agencies, and others.

(c) It is the intent of the Legislature that the task force reach general agreement on those provisions which will be included in the model water efficient landscape ordinance.

(d) It is the intent of the Legislature that the task force consider the most recent information on efficient landscape irrigation technologies and those elements of existing water efficient landscape ordinances which have proven successful in reducing water consumption.

(e) It is the intent of the Legislature that the model water efficient landscape ordinance developed pursuant to this article promote the most efficient use of water in the landscape while respecting the economic, environmental, aesthetic, and lifestyle choices of individuals and property owners.

65592. Unless the context requires otherwise, the definitions used in this section govern the construction of this article:

(a) "Department" means the Department of Water Resources.

(b) "Local agency" means any city, county, or city and county.

(c) "Water efficient landscape ordinance" means an ordinance or resolution adopted by a local agency to address the efficient use of water in landscaping.

65593. Not later than February 1, 1991, the department shall appoint an advisory task force to work with department staff in the drafting of a model water efficient landscape ordinance. The task force shall consist of the following members:

(a) One member selected from a list provided by the League of California Cities.

(b) One member selected from a list provided by the County Supervisors Association of California.

(c) One member selected from a list provided by a recognized professional association in California representing water agencies.

(d) One member selected from a list provided by a recognized association in California representing commercial builders.

(e) One member selected from a list provided by a recognized professional association in California representing residential builders.

(f) One member representing a nonprofit environmental protection organization or a water conservation organization whose principal purpose includes promoting the efficient use of water or water conservation.

(g) One member selected from a list provided by a recognized professional association in California representing the nursery industry.

(h) One member selected from a list provided by a recognized professional association in California representing landscape contractors.

(i) One member selected from a list provided by a recognized professional association in California representing landscape architects.

(j) One member selected from a list provided by a recognized professional association in California representing the manufacturers or designers of irrigation equipment.

(k) One member representing the Green Industry Council of California.

(l) One member selected from a list provided by a recognized association in California representing the growers or producers of turf grass.

(m) One member selected by the Director of Water Resources.

Membership of the task force shall, to the extent practicable, be representative of the state's cultural, racial, and ethnic diversity and gender balance.

All meetings of the task force shall be subject to Article 9 (commencing with Section 11120) of Chapter 1 of Part 1 of Division 3 of Title 2 of the Government Code.

The Legislature declares that some individuals appointed as members of the task force must be chosen as representatives of the industries and professions impacted by local water conservation ordinances, and that their representation of these industries and professions does serve the general public interest as they have unique information, expertise, and experience on the issue of water

conservation and landscaping that should be taken into consideration by the department as it considers the development of model water conservation ordinances. Therefore, for purposes of persons who hold this office, the industries and professions which are represented on the task force constitute the public generally within the meaning of Section 87103 of the Government Code in those decisions impacting those specific industries and professions, unless the results of their actions taken as task force members have a material financial effect on those members distinguishable from their effect on other members of their respective industries and professions generally.

The task force shall submit the recommended model local water efficient landscape ordinance to the department on or before May 1, 1991.

The department shall adopt a model local water efficient landscape ordinance based on the recommendations of the task force.

The task force shall cease to exist on the date the department adopts a model local water efficient landscape ordinance or January 1, 1992, whichever occurs first.

65594. (a) Not later than January 1, 1992, after holding a public hearing, the department, based on recommendations of the task force established pursuant to Section 65593, shall adopt a model local water efficient landscape ordinance which each local agency may adopt.

(b) In developing the model ordinance, the task force shall recognize and promote the benefits of consistent local ordinances in areas having similar climatic, geological, or topographical conditions.

(c) The department shall notify and deliver a copy of the model local water efficient landscape ordinance to the Joint Legislative Budget Committee. The Joint Legislative Budget Committee shall have 60 days to review the model ordinance before it is formally adopted by the department.

(d) Not later than January 31, 1992, the department shall distribute the adopted model ordinance to all local agencies and other interested parties.

(e) The department shall promote the benefits of consistent local ordinances in areas having similar climatic, geological, or topographical areas.

65595. If by January 1, 1993, a local agency has not adopted a water efficient landscape ordinance or has not adopted findings based on climatic, geological, or topographical conditions, or water availability, which state that a water efficient landscape ordinance is unnecessary, the model water efficient landscape ordinance adopted by the department pursuant to subdivision (a) of Section 65594 shall take effect on January 1, 1993, and shall be enforced by the local agency and have the same force and effect as if adopted by the local agency.

65596. To the extent feasible, local agencies that adopt a water efficient landscape ordinance after the model water efficient

landscape ordinance is adopted by the department, shall consider the provisions of the model.

65597. The proposed model ordinance shall contain, but not be limited to, the following:

(a) Provisions for water conservation through the appropriate use and groupings of plants that are well adapted to particular sites and to particular climatic, geological, or topographical conditions. The model ordinance shall not prohibit or require specific plant species, but it may include conditions for the use of plant species. However, the model shall not include conditions which have the effect of prohibiting or requiring specific plant species.

(b) Provisions for the use of automatic irrigation systems and seasonal irrigation schedules, incorporating water conservation design and utilizing methods appropriate for specific terrains, soil types, wind conditions, temperatures, and other environmental factors, in order to ensure a high degree of water efficiency.

(c) Provisions for grading and drainage to promote healthy plant growth and to prevent excessive erosion and runoff, and the use of mulches in shrub areas, garden beds, and landscaped areas where appropriate.

(d) Provisions for the use of recycled water supplied through dual distribution systems, if feasible and cost effective, and subject to appropriate health standards.

(e) Provisions to educate water users on the efficient use of water and the benefits of doing so.

(f) Provisions addressing regional differences where necessary and feasible, including fire prevention needs.

(g) Provisions to exempt landscaping which is part of a registered historical site, where feasible.

(h) Provisions for the use of economic incentives to promote the efficient use of water, where feasible.

(i) Provisions for landscape maintenance practices which foster long-term landscape water conservation. Landscape maintenance practices may include, but are not limited to, performing routine irrigation system repair and adjustments, scheduling irrigation based on CIMIS (California Irrigation Management Information System), conducting water audits, and prescribing the amount of water applied per landscaped acre.

65598. The proposed model ordinance shall exempt cemeteries from all provisions of the ordinance except those provisions adopted to conform with subdivisions (e), (h), and (i) of Section 65597. In adopting language specific to cemeteries, the task force shall recognize their special landscape management needs.

65599. Not later than January 31, 1993, each local agency shall file with the department a copy of the water efficient landscape ordinance adopted pursuant to Section 65595, or adopted before the effective date of this article, or the findings which state that a water efficient landscape ordinance is unnecessary. Not later than July 1, 1993, the department shall prepare and submit a report to

the Legislature summarizing the status of water efficient landscape ordinances adopted by local agencies.

65600. Any actions or proceedings to attach, review, set aside, void, or annul the act, decision, or findings of a local agency on the ground of noncompliance with this article shall be brought pursuant to Section 1085 of the Code of Civil Procedure.

GOVERNMENT CODE
SECTION 65601-65607

65601. This article shall be known and may be cited as the Water Recycling in Landscaping Act.

65602. The Legislature finds and declares all of the following:
(a) The waters of the state are of limited supply and are subject to ever-increasing demands.
(b) The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.
(c) It is the policy of the state to promote the efficient use of water through the development of water recycling facilities.
(d) Landscape design, installation, and maintenance can and should be water efficient.
(e) The use of potable domestic water for landscaped areas is considered a waste or unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available that meets the conditions described in Section 13550 of the Water Code.

65603. Unless the context requires otherwise, the definitions used in this section govern the construction of this article:
(a) "Designated recycled water use area" means areas within the boundaries of the local agency that can or may in the future be served with recycled water in lieu of potable water and are so designated by the local agency.
(b) "Local agency" means any city, county, or city and county.
(c) "Recycled water producer" means any local public or private entity that produces recycled water in accordance with the conditions described in Section 13550 of the Water Code.

65604. If a recycled water producer determines that within 10 years the recycled water producer will provide recycled water within the boundaries of a local agency that meets all of the conditions described in Section 13550 of the Water Code, the recycled water producer shall notify the local agency of that fact and shall identify in the notice the area that is eligible to receive the recycled water, and the necessary infrastructure that the recycled water producer or retail water supplier will provide to support delivery of the recycled water.

65605. (a) Within 180 days of receipt of notification from a recycled water producer pursuant to Section 65604, the local agency shall adopt and enforce a recycled water ordinance pursuant to this article.
(b) The ordinance shall include, but not be limited to, provisions that do all of the following:
(1) State that it is the policy of the local agency that recycled

water determined to be available pursuant to Section 13550 of the Water Code shall be used for nonpotable uses within the designated recycled water use area set forth by the local agency when the local agency determines that there is not an alternative higher or better use for the recycled water, its use is economically justified, and its use is financially and technically feasible for projects under consideration by the local agency.

(2) Designate the areas within the boundaries of the local agency that can or may in the future use recycled water, including, but not limited to, existing urban areas in lieu of potable water.

(3) Establish general rules and regulations governing the use and distribution of recycled water in accordance with applicable laws and regulations.

(4) Establish that the use of the recycled water is determined to be available pursuant to Section 13550 of the Water Code in new industrial, commercial, or residential subdivisions located within the designated recycled water use areas for which a tentative map or parcel map is required pursuant to Section 66426. These provisions shall require a separate plumbing system to serve nonpotable uses in the common areas of the subdivision, including, but not limited to, golf courses, parks, greenbelts, landscaped streets, and landscaped medians. The separate plumbing system to serve nonpotable uses shall be independent of the plumbing system provided to serve domestic, residential, and other potable water uses in the subdivision.

(5) Require that recycled water service shall not commence within the designated recycled water use area in any service area of a private utility, as defined in Section 1502 of the Public Utilities Code, or to any service area of a public agency retail water supplier that is not a local agency, as defined in subdivision (b) of Section 65603, except in accordance with a written agreement between the recycled water producer and the private utility or public agency retail water supplier that shall be made available in a timely manner by the recycled water producer to the local agency adopting the ordinance pursuant to this article.

65606. The recycled water ordinance adopted by a local agency pursuant to Section 65605 shall not apply to either of the following:

(a) A tentative map as defined in Section 66424.5, or a development, as defined in Section 65927, that was approved by the local agency prior to the receipt of notification from a recycled water producer pursuant to Section 65604.

(b) A subdivision map application that is deemed complete pursuant to Section 65943 prior to the local agency's receipt of a notice from a recycled water producer pursuant to Section 65604.

65607. (a) This article shall not apply to any local agency that adopted a recycled water ordinance or other regulation requiring the use of recycled water in its jurisdiction prior to January 1, 2001.

(b) This article does not alter any rights, remedies, or obligations that may exist pursuant to Chapter 7 (commencing with Section 13500) of Division 7 of the Water Code.

(c) This article does not alter any rights, remedies, or obligations that may exist pursuant to Chapter 8.5 (commencing with Section 1501) of Part 1 of Division 1 of the Public Utilities Code.

MODEL WATER RECYCLING ORDINANCE

The intent of the model water recycling ordinance is to maximize resource conservation and streamline implementation of water recycling projects in conformance with recent changes in state law. The ordinance, which mandates the use of recycled water is a generic model to be tailored by public agencies to conform with their rules and regulations. It is based in part on California Water Code sections 1009 and 13550-13556 and Government Code sections 65601-65605 which authorize water public agencies to require the installation of separate systems for use of recycled water on private property and state that the continued use of potable water for greenbelt irrigation and certain other non-potable water uses is an unreasonable use of water if recycled water is available and usable for such purposes. The following materials are included herein:

It should be noted that the State Water Resources Control Board, which administers the state's water recycling loan and grant program, requires agreements from recycled water users before a low interest loan or grant can be authorized. With an adopted ordinance, the agreements become optional, thus streamlining the application procedure and possibly improving chances for a loan or grant.

Appendix A

California Water Code
Water Recycling Policy Provisions

§ 461. Purpose

It is hereby declared that the primary interest of the people of the state in the conservation of all available water resources requires the maximum reuse of water in the satisfaction of requirements for beneficial uses of water.

*History: Added by Stats.1974, c. 1128, p. 2414, § 2, **amended by Stats. 1994 (A.B.2797), c ___, § 3.***

§ 13510. Public interest

It is hereby declared that the people of the state have a primary interest in the development of facilities to recycle water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the state.

History: Added by Stats.1969, c. 482, p. 1074, § 18, operative Jan. 1, 1970.

§ 13511. Legislative findings

The Legislature finds and declares that a substantial portion of the future water requirements of this state may be economically met by beneficial use of recycled water.

The Legislature further finds and declares that the utilization of recycled water by local communities for domestic, agricultural, industrial, recreational, and fish and wildlife purposes will contribute to the peace, health, safety and welfare of the people of the state. Use of recycled water constitutes the development of "new basic water supplies" as that term is used in Chapter 5 (commencing with Section 12880) of Part 6 of Division 6.

History: Added by Stats.1969, c. 482, p. 1075, § 18, operative Jan. 1, 1970.

§ 13512. Legislative intent

It is the intention of the Legislature that the state undertake all possible steps to encourage development of water recycling facilities so that recycled water may be made available to help meet the growing water requirements of the state.

History: Added by Stats.1969, c. 482, p. 1075, § 18, operative Jan. 1, 1970.

Appendix B

California Constitution and Water Code Mandatory Use Requirements

CALIFORNIA CONSTITUTION

ARTICLE X. WATER

§ 2. Conservation of water resources; restriction on riparian rights

Sec. 2. It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses; provided, however, that nothing herein contained shall be construed as depriving any riparian owner of the reasonable use of water of the stream to which the owner's land is riparian under reasonable methods of diversion and use, or as depriving any appropriator of water to which the appropriator is lawfully entitled. This section shall be self-executing, and the Legislature may also enact laws in the furtherance of the policy in this section contained.

History: Originally codified as Article XIV, Section 3 of the California Constitution. Reenacted verbatim and recodified on June 8, 1976.

ARTICLE 7. WATER REUSE

§ 13550. Legislative findings and declarations; use of potable water for nonpotable uses prohibited

(a) The Legislature hereby finds and declares that the use of potable domestic water for nonpotable uses, including, but not limited to, cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses, is a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available which meets all of the following conditions, as determined by the state board, after notice to any person or entity who may be ordered to use recycled water or to cease using potable water and a hearing held pursuant to Article 2 (commencing with Section 648) of Chapter 1.5 of Division 3 of Title 23 of the California Code of Regulations:

(1) The source of recycled water is of adequate quality for these uses and is available for these uses. In determining adequate quality, the state board shall consider all relevant factors, including, but not limited to, food and employee safety, and level and types of specific constituents in the recycled water affecting

these uses, on a user-by-user basis. In addition, the state board shall consider the effect of the use of recycled water in lieu of potable water on the generation of hazardous waste and on the quality of wastewater discharges subject to regional, state, or federal permits.

(2) The recycled water may be furnished for these uses at a reasonable cost to the user. In determining reasonable cost, the state board shall consider all relevant factors, including, but not limited to, the present and projected costs of supplying, delivering, and treating potable domestic water for these uses and the present and projected costs of supplying and delivering recycled water for these uses, and shall find that the cost of supplying the treated recycled water is comparable to, or less than, the cost of supplying potable domestic water.

(3) After concurrence with the State Department of Health Services, the use of recycled water from the proposed source will not be detrimental to public health.

(4) The use of recycled water for these uses will not adversely affect downstream water rights, will not degrade water quality, and is determined not to be injurious to plantlife, fish, and wildlife.

(b) In making the determination pursuant to subdivision (a), the state board shall consider the impact of the cost and quality of the nonpotable water on each individual user.

(c) The state board may require a public agency or person subject to this article to furnish information which the state board determines to be relevant to making the determination required in subdivision (a).

HISTORY: Added by Stats.1977, c. 1032, p. 3090, § 1, eff. Sept. 23, 1977. Amended by Stats.1978, c. 380, p. 1205, § 148; Stats.1978, c. 894, p. 2821, § 1, eff. Sept. 20, 1978; Stats.1991, c. 553 (A.B.174), § 1.

§ 13551. Industrial and irrigation uses of potable water prohibited; use of recycled water

A person or public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, shall not use water from any source of quality suitable for potable domestic use for nonpotable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available as provided in Section 13550; however, any use of recycled water in lieu of water suitable for potable domestic use shall, to the extent of the recycled water so used, be deemed to constitute a reasonable beneficial use of that water and the use of recycled water shall not cause any loss or diminution of any existing water right.

HISTORY: Added by Stats.1977, c. 1032, p. 3090, § 1, eff. Sept. 23, 1977. Amended by Stats.1978, c. 894, p. 2822, § 2, eff. Sept. 20, 1978; Stats.1991, c. 553 (A.B.174), § 2.

§ 13552. Amendments to §§ 13550 and 13551; effect

The amendments to Sections 13550 and 13551 of the Water Code made during the first year of the 1991-92 Regular Session are not intended to alter any rights, remedies, or obligations which may exist prior to January 1, 1992, pursuant to, but not limited to, those sections or Chapter 8.5 (commencing with Section 1501) of Part 1 of Division 1 of the Public Utilities Code.

HISTORY: Added by Stats.1991, c. 553 (A.B.174), § 3.

§ 13552.2. Irrigation of residential landscaping use of potable water prohibited; use of recycled water

(a) The Legislature hereby finds and declares that the use of potable domestic water for the irrigation of residential landscaping is a waste or an unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water, for this use, is available to the residents and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to submit information that the state board determines may be relevant in making the determination required in subdivision (a).

History: Added to the Water Code by Chapter 980 (S.B.365) effective January 1, 1994.

§ 13552.4. Requirements

(a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water for irrigation of residential landscaping, if all of the following requirements are met:

(1) Recycled water, for this use, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) The irrigation systems are constructed in accordance with Chapter 3 (commencing with Section 60301) of Division 4 of Title 22 of the California Code Regulations.

(b) This section applies to both of the following:

(1) New subdivisions for which the building permit is issued on or after March 15, 1994, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1994, for which the State Department of Health Services has approved the use of recycled water.

(2) Any residence that is retrofitted to permit the use of recycled water for landscape irrigation and for which the State Department of Health Services has approved the use of recycled water.

(c) (1) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water for irrigation of residential landscaping necessary to comply with a requirement prescribed by a public agency under subdivision (a).

(2) The exemption in paragraph (1) does not apply to any project to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

History: Added to the Water Code by Chapter 980 (S.B.365) operative January 1, 1994.

§ 13552.6. Floor trap priming; cooling towers; and air-conditioning devices; use of potable water prohibited; use of recycled water

(a) The Legislature hereby finds and declares that the use of potable domestic water for floor trap priming, cooling towers, and air-conditioning devices is a waste or an unreasonable use of water within the meaning of Section 2 of Article X of the California Constitution if recycled water, for these uses, is available to the user, and the water meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to submit information that the state board determines may be relevant in making the determination required in subdivision (a).

History: Added to the Water Code by Chapter 980 (S.B. 365) operative January 1, 1994..

§ 13552.8. Requirements

(a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water in floor trap priming, cooling towers, and air-conditioning devices, if all of the following requirements are met:

(1) Recycled water, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) If public exposure to aerosols, mist, or spray may occur, appropriate mist mitigation or mist control is provided, such as the use of mist arrestors or the addition of biocides to the water in accordance with criteria established pursuant to Section 13521.

(4) The person intending to use recycled water has prepared an engineering report pursuant to Section 60323 of Title 22 of the California Code of Regulations

that includes plumbing design, cross-connection control, and monitoring requirements for the public agency, which are in compliance with criteria established pursuant to Section 13521.

(b) This section applies to both of the following:

(1) New industrial facilities and subdivisions for which the building permit is issued on or after March 15, 1994, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1994, for which the State Department of Health Services has approved the use of recycled water.

(2) Any structure that is retrofitted to permit the use of recycled water for floor traps, cooling towers, or air-conditioning devices, for which the State Department of Health Services has approved the use of recycled water.

(c) (1) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water for floor trap priming, cooling towers, or air-conditioning devices necessary to comply with a requirement prescribed by a public agency under subdivision (a).

(2) The exemption in paragraph (1) does not apply to any project to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

History: Added to the Water Code by Chapter 980 (S.B. 365) operative January 1, 1994.

§ 13553. Legislative findings and declarations; use of potable water for toilet and urinal flushing in nonresidential and other designated structures

(a) The Legislature hereby finds and declares that the use of potable domestic **water** for toilet and urinal flushing instructures is a waste or an unreasonable use of **water** within the meaning of Section 2 of Article X of the California Constitution if recycled **water**, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(b) The state board may require a public agency or person subject to this section to furnish whatever information may be relevant to making the determination required in subdivision (a).

(c) For the purposes of this section and Section 13554, "structure" or "structures" means commercial, retail, and office buildings, theaters, auditoriums, schools, hotels, apartments, barracks, dormitories, jails, prisons, and reformatories, and other structures as determined by the State Department of Health Services.

(d) Nothing in this section or Section 13554 applies to a pilot program adopted pursuant to Section **13553**.1.

HISTORY: Added by Stats.1991, c. 723 (A.B.1698), § 1.

§ 13554. Use of recycled water for toilet and urinal flushing in nonresidential and other designated structures; requirements; application of section

(a) Any public agency, including a state agency, city, county, city and county, district, or any other political subdivision of the state, may require the use of recycled water for toilet and urinal flushing in nonresidential structures and those structures defined in Group I-3 in Table No. 5-A of the Uniform Building Code, except a mental hospital or other facility operated by a public agency for the treatment of persons with mental disorders, if all of the following requirements are met:

(1) Recycled water, for these uses, is available to the user and meets the requirements set forth in Section 13550, as determined by the state board after notice and a hearing.

(2) The use of recycled water does not cause any loss or diminution of any existing water right.

(3) The public agency has prepared an engineering report pursuant to Section 60323 of Title 22 of the California Code of Regulations that includes plumbing design, cross-connection control, and monitoring requirements for the use site, which are in compliance with criteria established pursuant to Section 13521.

(b) This section applies only to either of the following:

(1) New structures for which the building permit is issued on or after March 15, 1992, or, if a building permit is not required, new structures for which construction begins on or after March 15, 1992.

(2) Any construction pursuant to subdivision (a) for which the State Department of Health Services has, prior to January 1, 1992, approved the use of recycled water.

(c) Division 13 (commencing with Section 21000) of the Public Resources Code does not apply to any project which only involves the repiping, redesign, or use of recycled water by a nonresidential structure necessary to comply with a requirement issued by a public agency under subdivision (a). This exemption does not apply to any project to develop recycled water, to construct conveyance facilities for recycled water, or any other project not specified in this subdivision.

HISTORY: Added by Stats.1991, c. 723 (A.B.1698), § 2.

Appendix C

California Water Code and Gov't Code Mandatory Plumbing Requirements

§ 1009. Water conservation programs

Any supplier of water in this state for municipal use, including the state, or any city, county, city and county, district, individual, partnership, corporation, or any other entity, may undertake a water conservation program to reduce water use and may require, as a condition of new service, that reasonable water-saving devices and water reclamation devices be installed to reduce water use.

§ 13555.2. Recycled water delivery systems; purpose

The Legislature hereby finds and declares that many local agencies deliver recycled water for nonpotable uses and that the use of recycled water is an effective means of meeting the demands for new water caused by drought conditions or population increases in the state. It is the intent of the Legislature to encourage the design and construction of water delivery systems on private property that deliver water for both potable and nonpotable uses in separate pipelines.

HISTORY: Added by Stats.1992, c. 418 (A.B.2627), § 1.

§ 13555.3. Recycled water; nonpotable and potable uses; separate pipelines

(a) Water delivery systems on private property that could deliver recycled water for nonpotable uses described in Section 13550, that are constructed on and after January 1, 1993, shall be designed to ensure that the water to be used for only potable domestic uses is delivered, from the point of entry to the private property to be served, in a separate pipeline which is not used to deliver the recycled water.

(b) This section applies to water delivery systems on private property constructed within either of the following jurisdictions:

(1) One that has an urban water management plan that includes the intent to develop recycled water use.

(2) One that does not have an urban water management plan that includes recycled water use, but that is within five miles of a jurisdiction that does have an urban water management plan that includes recycled water use, and has indicated a willingness to serve the water delivery system.

(c) This section does not preempt local regulation of the delivery of water for potable and nonpotable uses and any local governing body may adopt requirements which are more restrictive than the requirements of this section.

HISTORY: Added by Stats.1992, c. 418 (A.B.2627), § 2.

Appendix D

Model Water Recycling Ordinance

WateReuse Association
October 10, 2001

October 10, 2001

MODEL WATER RECYCLING ORDINANCE

Ordinance No.
An Ordinance of the
Establishing A Water Recycling Master Plan
And Implementing Procedures

WHEREAS, the people of the state of California have a primary interest in the development of facilities to recycle water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the state (California Water Code, Section 13510); and

WHEREAS, conservation of all available water resources requires the maximum reuse of wastewater for beneficial uses of water (Water Code Section 461); and

WHEREAS, continued use of potable water for irrigation of greenbelt areas and other non-potable uses may be an unreasonable use of such water where recycled water is available;

NOW, THEREFORE, the (District)(City)(County)
Does hereby ordain:

SECTION 1. FINDINGS

The state policies described above are in the best interest of the_____. This ordinance is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. _____ is highly dependent on limited imported water for domestic, agricultural and industrial uses. The reliability of the supply of imported water is uncertain. By developing and utilizing recycled water, the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water may be considered unreasonable where recycled water is available. Recycled water should be more readily available in seasons of drought when the supply of potable water for nonessential uses may be uncertain.

SECTION 2: WATER RECYCLING POLICY

It is the policy of _____that recycled water determined to be available pursuant to Section 13550 of the Water Code shall be used for nonpotable uses within the designated Recycled Water Use Areas set forth by within the jurisdiction wherever there is not an alternative higher or better use for the recycled water, its use is economically justified, financially and technically feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.

SECTION 3: DEFINITIONS The following terms are defined for purposes of this ordinance:

3.1 AGRICULTURAL PURPOSES: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.

3.2 ARTIFICIAL LAKE: A human-made lake, pond, lagoon, or other body of water that is used wholly or partly for landscape, scenic or noncontact recreational purposes.

3.3 COMMERCIAL OFFICE BUILDING:Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

3.4 RECYCLED WATER DISTRIBUTION SYSTEM: A piping system intended for the delivery of recycled water only and which is separate from any potable water distribution system.

3.5 GREENBELT AREAS: A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping.

3.6 INDUSTRIAL PROCESS WATER: Water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated by the industrial waste discharge ordinance of _____.

3.7 OFF-SITE FACILITIES: Water facilities from the source of supply to the point of connection with the on-site facilities, including the water meter.

3.8 ON-SITE FACILITIES: Water facilities under the control of the owner, downstream from the water meter.

3.9 POTABLE WATER: Water which conforms to the federal, state and local standards for human consumption.

3.10 RECYCLED WATER:
Recycled water means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or controlled use that would not otherwise occur. (See Water Code Section 13050(n).)

SECTION 4: WATER RECYCLING MASTER PLAN

4.1 GENERAL: Upon adoption of this ordinance, the _____ shall prepare and adopt a Water Recycling Master Plan to define, encourage, and develop the use of recycled water within its boundaries. The Master Plan shall be updated not less often than every five years.

5.4 CONTENTS OF THE WATER RECYCLING MASTER PLAN: The Master Plan shall include, but not be limited to, the following:

4.2.1 PLANTS AND FACILITIES. Evaluation of the location and size of present and future reclamation treatment plants, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.

4.2.2 RECYCLED WATER SERVICE AREAS. A designation, based on the criteria set forth in Section 2 and the information derived from Section 4.2.1 and 4.2.2, of the areas within the boundaries of _____ that can or may in the future use recycled water in lieu of potable water. Recycled water uses may include, but are not limited to, the irrigation of greenbelt and

agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

4.2.3 MANDATORY RECYCLED WATER USE. For each recycled water service area, evaluate whether greenbelt irrigation, agricultural irrigation, commercial office buildings, filling of artificial lakes, or industrial processes shall be limited to the use of recycled water. As appropriate, mandate construction of recycled water distribution systems or other facilities in new and existing developments for current or future recycled water use as a condition of any development approval or continued water service if future water recycling facilities are proposed in the Master Plan that could adequately serve the development, in accordance with the procedures described in Section 5. Identify resources and adopt measures to assist water users in the financing of necessary conversions.

4.2.4 RULES AND REGULATIONS. Establish general rules and regulations governing the use and distribution of recycled water.

SECTION 5. PROCEDURES

5.1 EXISTING POTABLE WATER SERVICE:

5.1.1 PRELIMINARY DETERMINATION. Based upon the Master Plan, upon the designation of each recycled water service area or the commencement of the design of new recycled water facilities, the shall make preliminary determinations as to which existing potable water customers shall be converted to the use of recycled water. Each water customer shall be notified of the basis for a determination that conversion to recycled water service will be required, as well as the proposed conditions and schedule for conversion.

5.1.2 NOTICE. The notice of the preliminary determination, including the proposed conditions and time schedule for compliance, and a recycled water permit application shall be sent to the water customer by certified mail.

5.1.3 OBJECTIONS; APPEALS. The water customer may file a notice of objection with the within (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion. The objection must be in writing and specify the reasons for the objection. The preliminary determination shall be final if the customer does not file a timely objection. Staff (to be specified) shall review the objection and shall confirm, modify or abandon the preliminary determination. Upon issuance of a final

determination by staff, customer may appeal the determination as follows: (The desired appeal process should here be described.)

5.2 DEVELOPMENT AND WATER SERVICE APPROVALS:

5.2.1 CONDITIONS. Upon application by a developer, owner or water customer (herein referred to as "applicant") for a new industrial, commercial, or residential subdivisions located within the designated Recycled Water Use Areas for which a tentative map or parcel map is required pursuant to Government Code Section 66426 [or for new or altered water service ~Note: Applicable to water districts only], the staff shall review the Master Plan and make a preliminary determination whether the current or proposed use of the subject property is required to be served with recycled water or to include facilities designed to accommodate the use of recycled water in the future. Based upon such determination, use of recycled water and provision of recycled water distribution systems or other facilities for the use of recycled water, and application for a permit for such use may be required as a condition of approval of any such application, in addition to any other conditions of approval [or service.(Note: Applicable in water districts only; such Conditions should normally be placed upon projects at the earliest possible stage, e.g. subdivision map approval.)]

5.2.2 ALTERATIONS AND REMODELING. On a case by case basis, upon application for a permit for the alteration or remodeling of multi-family, commercial or industrial structures (including, for example, commercial office buildings), the staff shall review the Master Plan and make a preliminary determination whether the subject property shall be required to be served with recycled water or to include facilities designed to accommodate the use of recycled water in the future. Based upon such determination, use of recycled water and provision of recycled water distribution systems or other facilities for the use of recycled water, and application for a permit for such use, may be required as a condition of approval of the application.

5.2.3 NOTICE OF DETERMINATION. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant prior to approval of the development application [or application for water service (Water districts only.)]. (Note: Since in most cases, development conditions can be negotiated or appealed through established procedures, no new process is provided here.)

5.2.4 REQUESTED SERVICE. On a case by case basis, upon application for a permit to use recycled water on a property not covered by Sections 5.1.1, 5.2.1, or 5.2.2 above, the shall review

the Master Plan and make a determination whether the subject property shall be served with recycled water. Based upon such determination, the application for the permit shall be accepted and processed subject to Section 5.3.

5.3 RECYCLED WATER PERMIT PROCESS: Upon a final determination by the_____that a property shall be served with recycled water, or adoption of a condition of development approval [or water service (Water districts only)] requiring use or accommodation of the use of recycled water, the water customer, owner or applicant shall obtain a recycled water permit.

5.3.1 PERMIT CONDITIONS. The permit shall specify the design and operational requirements for the applicant's water distribution facilities and schedule for compliance, based on the rules and regulations adopted pursuant to Section 4.2 and shall require compliance with both the California Department of Health Services Wastewater Recycling Criteria (see California Code of Administrative Regulations, Title 22), and requirements of the Regional Water Quality Control Board.

5.3.2 PLAN APPROVAL. Plans for the recycled and non recycled water distribution systems for the parcel shall be reviewed by the_____and a field inspection conducted before the permit is granted.

5.3.3 PERMIT ISSUANCE. Upon approval of plans the permit shall be issued. Recycled water shall not be supplied to a property until inspection by the _____determines that the applicant is in compliance with the permit conditions. Recycled water service shall not commence within the designated Recycled Water Use Area in any service area of a private utility, as defined in Section 1502 of the Public Utilities Code, or to any service area of a public agency retail water supplier that is not a city, county or city and county, except in accordance with a written agreement between the recycled water producer and the private utility or public agency retail water supplier.

5.4 TEMPORARY USE OF POTABLE WATER:
At the discretion of the _____, potable water may be made available on a temporary basis, until recycled water is available. Before the applicant receives temporary potable water, a water recycling permit, as described in Section 5.3, must be obtained for new on-site distribution facilities. Prior to commencement of recycled water service, an inspection of the on-site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the recycled water permit and current requirements for service. Upon verification of

compliance, recycled water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have at least thirty (30) days to take such actions prior to initiation of enforcement proceedings.

5.5 RECYCLED WATER RATE: The rate charged for recycled water shall be established by resolution of the _____.

SECTION 6. SANCTIONS

6.1 PUBLIC NUISANCE:Discharge of wastes or the use of recycled water in any manner in violation of this ordinance or of any permit issued hereunder is hereby declared a public nuisance and shall be corrected or abated as directed by _____. Any person creating such a public nuisance is guilty of a misdemeanor.

6.2 INJUNCTION: Whenever a discharge of wastes or use of recycled water is in violation of this ordinance or otherwise causes or threatens to cause a condition of nuisance, the _____may seek injunctive relief as may be appropriate to enjoin such discharge or use.

6.3 PERMIT REVOCATION: In addition to any other statute or rule authorizing termination of water service, the _____may revoke a permit issued hereunder if a violation of any provision of this ordinance is found to exist or if a discharge of wastes or use of recycled water causes or threatens to cause a nuisance.

6.4 PENALTY: Any owner andlor operator who violates this ordinance shall, for each day of violation, or portion thereof, be subject to a fine not exceeding $1,000. In addition, water service to the property may be discontinued.

SECTION 7. VALIDITY

If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the ordinance and the application of such provisions to other persons or circumstances shall not be affected thereby.

Attachment
Southern California Comprehensive
Water Reclamation and Reuse Study Phase II
Executive Summary
by
The United States Bureau of Reclamation

Southern California Comprehensive Water Reclamation and Reuse Study Phase II

Executive Summary

Cooperative Effort Funded And Managed By:

The United States Bureau of Reclamation

In Partnership With:

California Department of Water Resources,
Central Basin and West Basin Municipal Water Districts, City of Los Angeles,
City of San Diego, Metropolitan Water District of Southern California,
San Diego County Water Authority, Santa Ana Watershed Project Authority,
South Orange County Reclamation Authority

July 2002

Prepared in partnership with:

A&N Technical Services
Navigant Consulting
Water 3 Engineering
Dr. Michael Welch

CH2MHILL
3 Hutton Centre Drive, Suite 200
Santa Ana, CA 92707

Attachment
Water Recycling 2030
by
California's Water Recycling Task Force

Water Recycling 2030

Recommendations of California's Recycled Water Task Force

JUNE 2003

Executive Summary

To meet the needs of California's projected population of 52 million in the year 2030, the State's water supply must be augmented and made more efficient. Water conservation, recycling, desalination, trading and storage of surface and groundwater are the components that will successfully manage the State's overall water supply.

Since the 1890s, Californians have been reusing municipal wastewater for agriculture and farm irrigation. By the early 1900s, communities began using recycled water (treated wastewater) for landscape irrigation. Currently, California is recycling approximately 500,000 acre-feet of water per year for various uses.

California has the potential to recycle up to 1.5 million acre-feet per year of water by the year 2030. This could free up freshwater supplies to meet approximately 30 percent of the household water needs associated with projected population growth. However, to achieve that potential, Californians will have to invest nearly $11 billion (approximately $400 million annually) for additional infrastructure to produce and deliver the recycled water.

The most common recycled water uses include: (1) landscape irrigation of highway medians, golf courses, parks, and schoolyards; (2) industrial uses such as power station cooling towers, oil refinery boiler feed water, carpet dyeing, recycled newspaper processing, and laundries; and (3) agricultural uses such as irrigation of produce, pastures for animal feed, and nursery plant products. Recently, recycled water use has expanded to office buildings for toilet flushing.

In coastal areas, excessive groundwater pumping results in seawater intrusion, which contaminates the aquifers with salt water. Recycled water is used to recharge the aquifers along the coast. This creates a hydraulic barrier to the inflow of seawater, thus protecting the quality and replenishing the supply of the inland groundwater.

Groundwater aquifers have been recharged with recycled water in California since the 1960s. Because groundwater aquifers serve as potable water supply basins, groundwater recharge, including seawater intrusion barriers, is considered an indirect potable reuse. The Department of Health Services (DHS) requires advanced treatment of recycled water before it is used to recharge groundwater aquifers. These treatment requirements are more restrictive than the typical requirements for discharges to inland surface or coastal waters.

Serrano Country Club, irrigated with recycled water in El Dorado Hills, CA. Over 125 golf courses use recycled water in California.

Recycled water is used for toilet and urinal flushing in the recently constructed Smith Barney building in Irvine, CA.

At the final meeting of the Recycled Water Task Force, Thomas Hannigan (l.), Director of DWR, listens to Assemblymember Jackie Goldberg, author of AB 331, which mandated creation of the Task Force.

Assembly Bill No. 331 was passed by the California Legislature, and signed into law by Governor Gray Davis on October 7, 2001. The bill required the creation of the 2002 Recycled Water Task Force (Task Force) to identify constraints, impediments, and opportunities for the increased use of recycled water and report to the Legislature by July 1, 2003. Although water recycling includes treatment of a broad range of wastewater sources, the Task Force decided to focus on the planned reuse of treated municipal wastewater; specifically, the financial/economic, regulatory, and social issues that typically arise in water recycling projects.

Representatives of federal, State, and local agencies, private entities, environmental organizations, universities, concerned individuals and public-interest groups were appointed to the 40-member Task Force in April 2002. The Task Force includes experts in the field of water recycling, including those involved in the production and use of recycled water, public health officials, world-renowned researchers, environmental organizations, and the public. The Task Force established committees (workgroups) to focus on specific topics of concern and produce reports that served as a basis of Task Force decision-making. The Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), and the DHS provided technical assistance to the Task Force and its workgroups.

DHS' regulations prescribe the level of treatment necessary for the various uses of recycled water. In general, the public has accepted these regulations as being adequate for protection of public health. There are successful indirect potable reuse projects involving groundwater recharge in California and new projects continue to be proposed. However, in some instances, the public has not been receptive to the concept of using recycled water to recharge groundwater basins that serve as drinking water supply sources. Some indirect potable reuse proposals have been mischaracterized by images of recycled water being fed directly into drinking water pipeline systems. The Task Force found the need to involve the public much earlier in the decision-making process for projects, to make the process much more transparent and to provide facts early on in project planning. Therefore, the Task Force devoted considerable attention to issues surrounding public health and the need for increased education and outreach related to the facts and scientific research about recycled water.

Displaying interagency cooperation, the Task Force was led by (from left) David Spath (DHS), Eric Schockman (facilitator), Richard Katz (SWRCB), and Jonas Minton (DWR), Fawzi Karajeh (DWR).

Other critical issues include the lack of local funding for (1) water recycling infrastructure, (2) research on emerging contaminants, and (3) public health concerns. These have also been identified as impediments to increased water recycling statewide. A financial incentive for the local development of water recycling projects is an effective tool for the construction of water recycling facilities and infrastructure, as evidenced by the SWRCB's Propositions 13 and 50 loan and grant programs. Therefore, the need for additional State funding to provide local water recycling funding assistance is also reflected in the recommendations.

The Task Force identified and adopted 26 issues with respective recommendations to address obstacles, impediments, and opportunities for California to increase its recycled

water usage. Recommendations associated with thirteen of these issues were adopted as key recommendations deserving of more immediate attention. The 26 issues and a summary of the recommendations follow. The issues have been numbered as shown in parentheses to correspond to their numbers assigned in Chapters 4, 5, and 6 of the report.

Key Issues and Recommendations Summary:

***Funding for Water Recycling Projects (1.1)** - State funding for water reuse/recycling facilities and infrastructure should be increased beyond Proposition 50 and other current sources.*

***Community value-based Decision-making Model for Project Planning (2.1)** - Local agencies should engage the public in an active dialogue and participation using a community value-based decision-making model in planning water recycling projects. Public participation activities should go beyond the minimum requirements of State and federal environmental laws, perhaps being reinforced by State funding agencies requiring a comprehensive public participation process as a condition for receiving State funds.*

***Leadership support for water recycling (2.2) -** State government should take a leadership role in encouraging recycled water use and improve consistency of policy within branches of State government. Local agencies should create well-defined recycled water ordinances. Local regulatory agencies should effectively enforce these ordinances. The State should convene an independent statewide review panel on indirect potable reuse to ensure adequate health and safety assurance for California residents.*

***Educational Curriculum (2.3)** - The State should develop comprehensive education curricula for public schools; and institutions of higher education should incorporate recycled water education into their curricula. Governmental and nongovernmental organizations should enhance their existing public education programs.*

***State-sponsored media campaign (2.4) -** The State should develop a water issues information program, including water recycling, for radio, television, print, and other media.*

***Uniform Plumbing Code Appendix J (3.1) -** The State should revise Appendix J of the Uniform Plumbing Code, which addresses plumbing within buildings with both potable and recycled water systems, and adopt a California version that will be enforceable in this State.*

***DHS Guidance on Cross-connection Control (3.2)** - The Department of Health Services should prepare guidance that would clarify the intent and applicability of Title 22, Article 5 of the California Code of Regulations pertaining to dual plumbed systems and amend this article to be consistent with requirements included in a California version of Appendix J that the Task Force is recommending to be adopted.*

Health and Safety Regulation (4.1) - *The Department of Health Services should involve stakeholders in a review of various factors to identify any needs for enhancing existing local and State health regulation associated with the use of recycled water.*

Incidental Runoff (4.2) - *The State should investigate, within the current legal framework, alternative approaches to achieve more consistent and less burdensome regulatory mechanisms affecting incidental runoff of recycled water from use sites.*

Uniform Interpretation of State Standards (4.3) - *The State should create uniform interpretation of State standards in State and local regulatory programs by taking specific steps recommended by the Task Force, for example, appointing an ombudsman in the State Water Resources Control Board to oversee uniformity within the SWRCB and the Regional Water Quality Control Boards.*

Water Softeners (4.4) *- The Legislature should amend the Health and Safety Code Sections 116775 through 116795 to reduce the restrictions on local ability to impose bans on, or more stringent standards for, residential water softeners. Within the current legal provisions on water softeners, local agencies should consider publicity campaigns to educate consumers regarding the impact of self-regenerative water softeners.*

Uniform Analytical Method for Economic Analyses (5.1) - *A uniform and economically valid procedural framework should be developed to determine the economic benefits and costs of water recycling projects for use by local, State, and federal agencies. Guidance should be developed to conduct economic feasibility analyses, incorporating nonmarket values to the extent possible. Appropriate benchmarks for comparing incremental costs of developing recycled water with the cost of developing an equivalent amount through alternative measures. An advisory team should be created by the Department of Water Resources, the State Water Resources Control Board, and the Department of Health Services to assist these tasks.*

Research Funding (6.1) - *The State should expand funding sources to include sustainable State funding for research on recycled water issues.*

University Academic Program for Water Recycling (6.2) *- The State should encourage an integrated academic program on one or more campuses for water recycling research and education, such as through State research funding.*

Additional Important Issues and Recommendations Summary:

Funding Coordination (1.2) *- A revised funding procedure should be developed to provide local agencies with assistance in potential State and federal funding opportunities. A Water Recycling Coordination Committee should be established to work with funding agencies, streamlining project selection within individual agencies while ensuring an open process, peer review, and public review.*

Regional Planning Criterion (1.3) - *State funding agencies should make better use of existing regional planning studies to determine the funding priority of projects. This process would not exclude projects from funding where regional plans do not exist.*

Funding Information Outreach (1.4) - *Funding agencies should publicize funding availability through workshops, conferences, and the Internet.*

Department of Water Resources Technical Assistance (1.5) - *Funding sources should be expanded to include sustainable State funding for DWR's technical assistance and research, including flexibility to work on local and regional planning, emerging issues, and new technology.*

Project Performance Analysis (1.6) - *Resources should be provided to funding agencies to perform comprehensive analysis of the performance of existing recycled water projects in terms of costs and benefits and recycled water deliveries. An estimate should be performed of future benefits potentially resulting from future investments.*

Recycled Water Symbol Code Change (3.3) - *The Department of Housing and Community Development should submit a code change to remove the requirement for the skull and crossbones symbol in Sections 601.2.2 and 601.2.3 of the California Plumbing Code.*

Stakeholder Review of Proposed Cross-connection Control Regulations (3.4) - *Stakeholders are encouraged to review Department of Health Services draft changes to Title 17 of the Code of Regulations pertaining to cross-connections between potable and nonpotable water systems.*

Cross-connection Risk Assessment (3.5) - *The Department of Health Services should support a thorough assessment of the risk associated with cross-connections between disinfected tertiary recycled water and potable water.*

Permitting Procedures (4.5) - *Various measures should be conducted to improve the administration and compliance with local and State permits, including providing Department of Health Services guidance, dissemination of information by the Association of California Water Agencies and the California Association of Sanitation Agencies, and State and local tax incentives to offset costs of compliance with regulations.*

Source Control (4.6) *- Local agencies should maintain strong source control programs and increase public awareness of their importance in reducing pollution and ensuring a safe recycled water supply.*

Economic Analyses (5.2) - *Local agencies are encouraged to perform economic analyses in addition to financial analyses for water recycling projects to provide transparency regarding the true costs and benefits of projects. State and federal agencies should require economic and financial feasibility as two funding criteria in their funding programs.*

Kirk Bone signs the Task Force report, witnessed by Fawzi Karajeh (l.) and Al Vargas (r.).

Statewide Science-based Panel on Indirect Potable Reuse (6.3) - *As required by AB 331, the Task Force reviewed the 1996 report of the California Indirect Potable Reuse Committee and other related advisory panel reports and concluded that reconvening this committee would not be worthwhile at this time.*

Details concerning the recommendations are contained in the report.

The Task Force intends for this report to be used as a working tool to guide the Legislature, State government, public agencies, the public and all water recycling stakeholders towards the safe and successful expansion of recycled water use to help meet the State's future water supply needs.

CHAPTER 1

Introduction

Richard Katz (r.), Chair of the Task Force, conducts the final meeting of the Task Force, assisted by Jonas Minton, Co-Vice Chair (center).

Adequate water resources are essential not only for basic human sustenance but also for a thriving economy that supports a high standard of living and amenities that make California a great place to live. Many areas of California are arid to semi-arid, requiring careful use of water and expensive water projects to maintain adequate supplies. Reusing treated municipal wastewater has long been practiced as one way to make efficient use of our water resources.

There are a variety of technical, health, and social issues that arise in the planning, development, regulation, and operation of water recycling projects. Through access to adequate information, sound planning and engineering practices, and appropriate regulatory standards and practices, there may be improved ability to implement successful projects that will contribute to the State's water supply and protect public health. The Recycled Water Task Force was created with the general mission of identifying ways to improve our ability to cope with these issues and making recommendations for specific actions that can be taken. This report is the product of the Task Force.

This chapter includes an overview of the Task Force and the process used to arrive at its recommendations. Chapter 2 includes an estimate of the potential for additional recycled water use in California, how it can complement our water supply, and the potential cost. The legal and regulatory framework for water recycling in California is presented in Chapter 3. The issues that have been identified by the Task Force are described in Chapter 4, and the highest priority recommendations to address these issues are presented. The remaining recommendations of the Task Force are included in Chapter 5. Implementation of the recommendations is addressed in Chapter 6.

Appendices are added as reference material, including a copy of Assembly Bill No. 331, a glossary, and abbreviations used in this report. White papers were prepared by six Task Force workgroups to provide a detailed analysis of the issues to assist the Task Force in developing its recommendations. While these white papers have not been adopted by the Task Force, they will be published separately as background information.

It will be helpful if some key terms are defined. "Recycled water" is defined in the California Water Code to mean *"water which, as a result of treatment of waste, is suitable for*

Water Recycling *- This is the process of treating wastewater for beneficial use, storing and distributing recycled water, and the actual use of recycled water. It is also the reuse of water through the same series of processes, pipes, or vessels more than once by one user, wherein the effluent from one use is captured and redirected back into the same use or directed to another use within the same facility of the user. This form of recycling, often without treatment between uses, is common in industrial facilities, such as cooling towers.*

Recycled Water or Reclaimed Water *This is wastewater that is suitable for a beneficial use as a result of treatment. The degree of treatment provided for recycled water depends on the quality of water needed for the specific beneficial use and for public health protection and may include effluent from Primary Wastewater Treatment, Secondary Wastewater Treatment, Tertiary Wastewater Treatment, or Advanced Treatment.*

a direct beneficial use or a controlled use that would not otherwise occur." For the present purposes we can simplify this to mean wastewater that has been treated to a quality that is suitable to use the water again. This could include both agricultural return waters and municipal wastewater; however, it appears that the legislative intent of the Task Force is to focus on the reuse of treated municipal wastewater. "Reclaimed water" and "reclaimed wastewater" are other terms in common use equivalent to recycled water.

In recent years "water recycling" has come to be an umbrella term encompassing the process of treating wastewater, storing and distributing the recycled water, and the actual use of the recycled water. "Water reclamation" and "wastewater reclamation and reuse" are other equivalent terms. In 1995, provisions of the Water Code, Fish and Game Code, Health and Safety Code, and other statutes were amended to replace terms such as wastewater "reclamation" and "reclaimed water" with "water recycling" and "recycled water." This legislation was intended to enhance public acceptance of recycled water supplies.

RECYCLED WATER TASK FORCE

The creation of the Recycled Water Task Force was called for in Assembly Bill No. 331 (Goldberg), which was passed by the California Legislature and approved by Governor Davis on October 7, 2001 (Water Code Section 13578). The text of the bill is in Appendix A. As directed in the bill, the Task Force was convened by the California Department of Water Resources (DWR). However, the Task Force has functioned as a cooperative effort of the three State agencies primarily responsible for planning and regulating water supply, including the State Water Resources Control Board (SWRCB) and the Department of Health Services (DHS). The Task Force is chaired by the SWRCB Member Richard Katz. The general objective of the Task Force is to advise DWR and report to the Legislature by identifying the opportunities for increasing the use of recycled water and identifying the constraints and impediments to increasing the use of recycled water. The Task Force must report to the Legislature no later than July 1, 2003.

The Task Force is composed of 40 members representing federal, State, and local governmental and private sector entities, environmental organizations, University of California, and public interest groups. The Task Force is composed of experts on the safe and beneficial uses of recycled water, including producers, suppliers, and users of recycled water, regulators, and representatives from environmental organizations, industry, and the public. The composition of the Task Force includes categories specified in AB 331 as well as additional members included to represent a broad range of viewpoints and expertise. The numbers of members representing various categories are listed below:

- 12 - State and federal government
- 2 - County health officials
- 14 - Local public agencies (water, wastewater, water recycling)
- 3 - Agency and industry associations

- 1 - University of California
- 4 - Public interest organizations and the public
- 2 - Private industry
- 2 - Investor-owned water utilities

In addition, over 40 people assisted the Task Force as staff and members of various workgroups of the Task Force. The names of the Task Force and workgroup members and staff are listed at the beginning of the report.

The first meeting of the Task Force was held on April 3, 2002. Its eighth and final meeting was held on May 13, 2003.

To accomplish the Task Force mission, six workgroups were created to address specific issue areas in depth and to report back to the Task Force. Twenty-two meetings were held by these workgroups.

A Web site was created for the Task Force to provide public access to its work and schedule. All meetings of the Task Force and workgroups were publicly noticed and open for public participation. In addition, three public discussion sessions were held.

FOCUS OF TASK FORCE

As a rationale for the work of the Task Force, AB 331 cites two goals set forth in other documents. The first is a statewide goal to recycle a total of 700,000 acre-feet of water per year by the year 2000 and 1,000,000 acre-feet of water per year by the year 2010 (Section 13577, Water Code). The second is a recommendation of Governor Davis' Advisory Drought Planning Panel (Panel) Critical Water Shortage Contingency Plan. That recommendation is, "In the interest of implementing the CALFED water use efficiency program (water conservation and water recycling actions) as quickly as possible, the Panel recommends that DWR maximize use of grants, rather than capitalization loans, to bring local agencies up to the base level of efficiency contemplated in the CALFED Record of Decision. The Panel recognizes that this recommendation would correspondingly accelerate the need for an additional source of State financial assistance for the water use efficiency program."

To address these goals, the Task Force is required by AB 331 to identify and report to the Legislature on opportunities for increasing the use of recycled water. It also must identify constraints and impediments, including the level of State financial assistance available for project construction. The bill further specified six areas for investigation:

1. How to further the use of recycled water in industrial and commercial applications, including the applicability of various requirements for prevention of cross-connections between potable and nonpotable water systems.
2. Changes in the Uniform Plumbing Code that are appropriate to facilitate the use of recycled water in industrial and commercial settings and recommendations to the California Building Standards Commission to effect those changes.

Chair of the Task Force, Richard Katz (r.), assisted by facilitator Eric Schockman (center) and David Spath, Co-Vice Chair.

Kevin Reilly (Deputy Director DHS Prevention Services), Kathy Fletcher (Deputy Secretary for External Affairs, Cal/EPA), Art Baggett (Chair, SWRCB) participating in final Task Force meeting.

3. Changes in State statutes or the current regulatory framework at the State and local level that are appropriate to increase the use of recycled water for commercial laundries and toilet and urinal flushing in structures and financial incentives to help offset the cost of retrofitting structures.
4. The need to reconvene the California Potable Reuse Committee established by DWR in 1993 or to convene a successor committee to update the committee's finding that planned indirect potable reuse of recycled water by augmentation of surface water supplies would not adversely affect drinking water quality if certain conditions were met.
5. The need to augment State water supplies using water use efficiency strategies identified in the CALFED Bay-Delta Program, including ways to coordinate with CALFED to assist local communities in educating the public with regard to the statewide water supply benefits of local recycling projects and the level of public health protection ensured by compliance with State health standards.
6. Impediments or constraints, other than water rights, related to increasing the use of recycled water in applications for agricultural, environmental, or irrigation uses.

While the report is to be delivered to the Legislature, the Task Force is not confined to recommendations requiring legislative action. The Task Force has investigated actions that can be taken at all levels of government, as well as by nongovernmental organizations.

Suzanne Arena, Bob Reed, and Muriel Watson discuss Task Force priorities.

WORKGROUPS

Early in the deliberations of the Task Force over 85 issues were suggested for investigation. It was necessary to create workgroups to be able to do the fact-finding and deliberate on potential alternative recommendations to bring to the Task Force for its consideration. The workgroups provided an opportunity for focused discussion not only by interested Task Force members but also by persons outside of the Task Force having special interests and expertise.

Six issue areas were established for focus by workgroups:

1. Funding / CALFED coordination
2. Public information, education, and outreach
3. Plumbing code / cross-connection control
4. Regulations and permitting
5. Economics of water recycling
6. Science and health / indirect potable reuse

Accompanied by fellow Task Force members Ane Deister (l.) and William VanWagoner (r.), the Public Information, Education, and Outreach Workgroup Co-chair Herman Collins addresses the Task Force.

Each workgroup was given a charge by the Task Force related to its issue area. The workgroups were intended to review all of the issues raised within their issue areas, select priority issues for in-depth analysis, and make recommendations to address the priority issues. The workgroups narrowed the list of potential issues to a few that appeared to be of highest priority so that within the limited time frame of the Task Force sufficient background information could be gathered to develop meaningful recommendations. The workgroups drafted "white papers," which contain the background information, issue analysis, and workgroup recommendations to the Task Force. The white papers were the foundation for further deliberation by the Task Force members but were not adopted by the Task Force. In addition, the workgroups provided expert presentations to the Task Force. The white papers will be published separately and will be available to the public.

CHAPTER 2

Role & Potential of Water Recycling

The Golden Gate of San Francisco Bay, home of several water recycling projects to meet water needs and protect the water quality of the bay.

California's current population of 35 million is expected to grow by roughly 17 million by 2030, a 50 percent increase. To meet the water demands associated with this growth, it will be necessary to develop a balanced portfolio of water resources, not only the traditional storage projects, but also an array of other types of facilities and management techniques, such as water transfers, water conservation, desalination, and, most certainly, water recycling. Based on the potential for additional recycled water use developed later in this chapter, recycled water could free up enough fresh water to meet the household water demands of 30 to 50 percent of the additional 17 million Californians. To achieve this potential, an investment of $11 billion would be needed.

RECYCLED WATER USE IN CALIFORNIA

Water recycling has been taking place in California as early as 1890 for agriculture, although it is likely that the wastewater was untreated at that time. By 1910 at least 35 communities were using wastewater for farm irrigation, 11 without wastewater treatment and 24 after septic tank treatment. Landscape irrigation in Golden Gate Park in San Francisco began with raw sewage, but due to complaints, minimal treatment was added in 1912. Since then wastewater treatment standards have been greatly improved to protect public health.

By 1952 there were 107 communities using recycled water for agricultural and landscape irrigation. The first comprehensive statewide estimate of water reuse of municipal wastewater was made in 1970, when 175 thousand acre-feet of recycled water were used. In 2000, this amount had increased to 402 thousand acre-feet. The recycled water was supplied by 234 wastewater treatment plants and delivered to over 4,800 sites. Currently recycled water use is estimated to be within a range of 450 to 580 thousand acre-feet per year. The trend in use is illustrated in Figure 1.

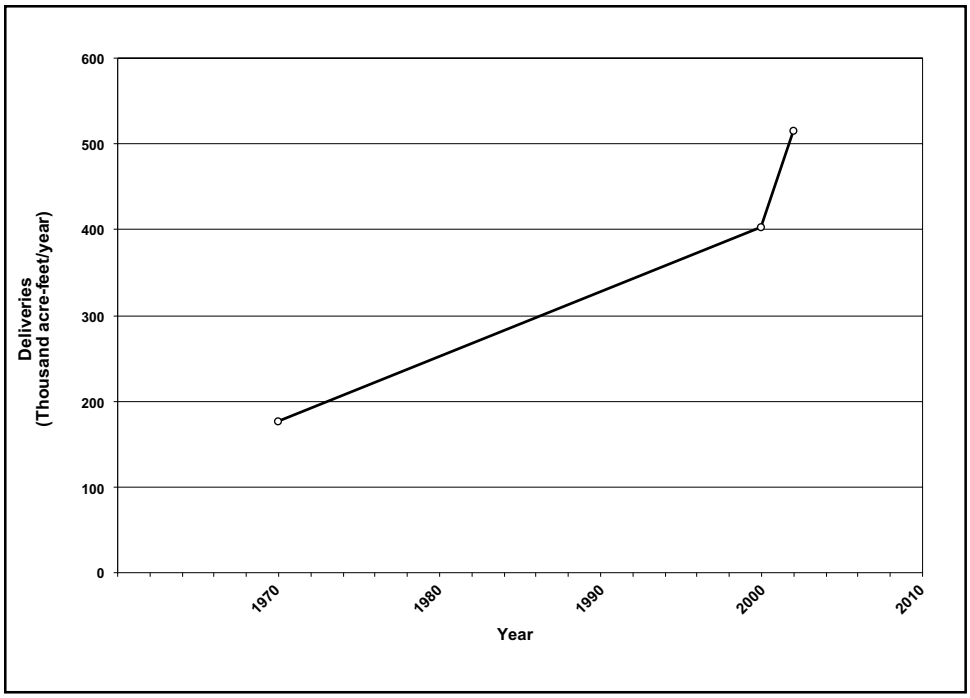


Figure 1. Recycled Water Use in California for 1970 to 2002.

Artichokes grown in Castroville with recycled water are now in markets after a 5-year study to demonstrate the safety of recycled water for food crops.

Recycled water is being used in a variety of ways, as illustrated in Figure 2. At least 20 varieties of food crops are grown with recycled water, including vegetables eaten raw, such as lettuce and celery. Eleven non-food crops, especially pasture and feed for animals, as well as nursery products, are irrigated with recycled water. Landscape irrigation is primarily for turf, including over 125 golf courses and many parks, schoolyards and freeway landscaping. Industrial and commercial uses include cooling towers in power stations, boiler feed water in oil refineries, carpet dyeing, recycled newspaper processing, and laundries. Recycled water is being used in office buildings for toilet and urinal flushing.

In many groundwater basins in California, the rate of pumping exceeds the rate of natural replenishment. Artificial recharge of groundwater is practiced in some areas by percolating either stormwater captured from streams, imported water, or recycled water into aquifers. The most notable use of recycled water for this purpose is recharge in the Montebello Forebay Groundwater Project in the vicinity of Whittier, which has occurred since 1962. In coastal areas where excessive groundwater pumping has taken place, the groundwater levels have fallen to the extent that seawater has been drawn inland, contaminating aquifers. Recycled water has been injected into the aquifers along the coast to create barriers to the seawater, thus protecting the groundwater while, in part, also replenishing the aquifer. Highly treated recycled water has been injected into a seawater barrier in Orange County since 1976 and a newer project operates along the coast in Los Angeles County.

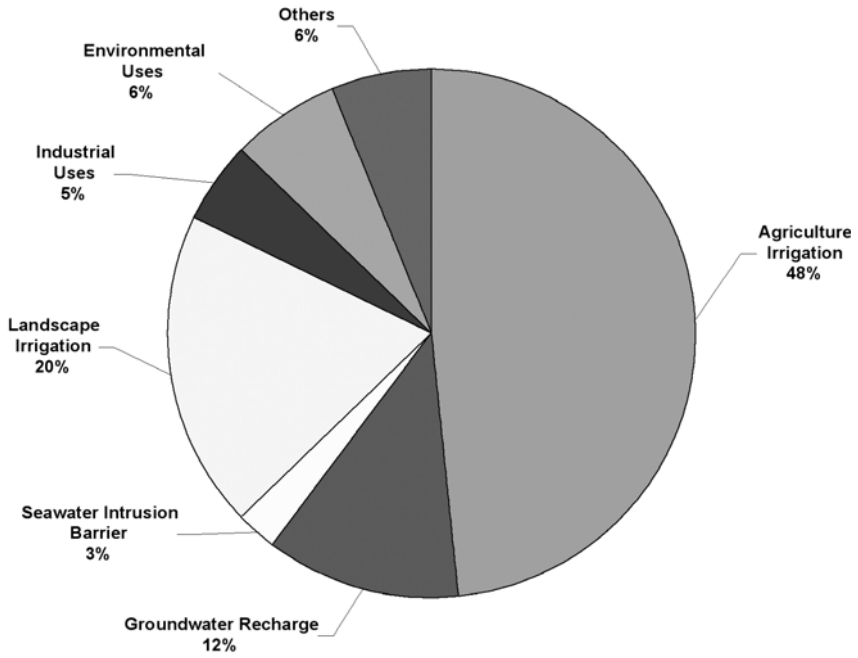
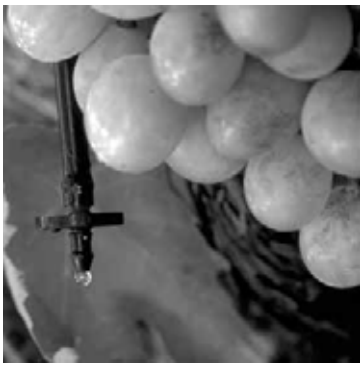


Figure 2. Types of Recycled Water Use in California (SWRCB, 2000).

WATER RECYCLING FUNDAMENTALS

Projects are initiated to serve particular objectives. Use of recycled water is motivated with a particular objective in mind and is often evaluated as one of several alternatives before determining that recycled water use is the most cost-effective means of meeting one or more objectives. There are several objectives that have led to the use of recycled water in California:

1. An incidental secondary benefit to the disposal of wastewater, primarily crop production by irrigation with effluent,
2. A water supply to displace the need for other sources of water,
3. A cost-effective means of environmentally sound treatment and disposal of wastewater,
4. A water supply for environmental enhancement.



Recycled water is used on vineyards in Fresno, San Diego, and Sonoma Counties.

Historically, agricultural use of recycled water predominated in California and occurred mostly in the Central Valley, where farm land was located adjacent to wastewater treatment facilities. The farm land offered a convenient place for disposal of effluent, and sometimes the sale of recycled water to nearby farmers offered a source of income to reduce costs to sewer users even when facilities were available for discharge to surface waters. As treatment standards were raised to protect the environment, land application was looked at more seriously as a cost-effective means of treatment and disposal of wastewater as opposed to discharge into streams. However, in recent decades, the emphasis in promoting water reuse has been more on the water supply benefits to meet demands in water-short areas. Water recycling is evaluated in comparison with other means of enhancing water supplies. Most projects now occur in urban areas, and uses have shifted more toward urban uses, such as landscape irriga-

Surface water reservoirs are a major source of water in California, but during droughts, as shown here at Lake Oroville, recycled water can be a more reliable supply.

tion and industrial use. Environmental enhancement, such as wetlands restoration, can be another, but certainly less prevalent, motivation.

Aside from meeting one or more of the major project objectives described above, there can be potential secondary benefits:

1. Provide additional reliable local sources of water, nutrients, and organic matter for agricultural soil conditioning and reduction in fertilizer use,
2. Reduce the discharge of pollutants to water bodies, beyond levels prescribed by regulations, and allow more natural treatment by land application,
3. Provide a more secure water supply during drought periods,
4. Provide economic benefits resulting from a more secure water supply.

The degree and type of wastewater treatment that is provided to make recycled water suitable for use depends on the types of use, the potential exposure of humans to recycled water and the public health implications, and the water quality required beyond health considerations. The basic levels of treatment include primary, secondary, and tertiary. Not all wastewater receives all three levels of treatment. Secondary treatment is commonly the minimum level of treatment for discharge to surface waters and for many uses of recycled water. Tertiary treatment is sometimes required for discharge to surface waters to protect fisheries or protect some uses of the waters. Tertiary treatment is often required for recycled water where there is a high degree of human contact. Disinfection is usually required for either discharge or recycled water use to kill viruses and bacteria that can cause illness.

The Department of Health Services specifies the levels of treatment for recycled water and publishes the standards in Title 22 of the California Code of Regulations. Examples of types of use and the prescribed levels of treatment are shown in Table 1. Beyond the treatment required for health protection, certain uses have specific water quality needs. High sodium or boron in water can be harmful to crops. Water hardness can cause scaling in industrial boilers. Nitrogen and phosphorus can stimulate algal growth in ponds or cooling towers. Sometimes specialized forms of tertiary treatment are needed to remove specific chemicals that would make recycled water unusable.

Most recycled water projects are designed to provide one level of water quality to all customers connected to the recycled water distribution system. If only a few potential customers need a special quality of water, it may not be economical to treat all of the recycled water to meet these special quality requirements. In recent years a more innovative approach is being practiced. Some customers with special quality needs may be served by their own pipeline from the wastewater treatment plant, and the recycled water producer provides two or more qualities of recycled water. If a single customer has special needs, the standard quality of recycled water is delivered to the customer's site and a customized treatment facility at the site provides the added treatment to bring the quality up to the standards of the customer. West Basin Municipal Water District in Southern

Table 1. Examples of Minimum Treatment Levels to Protect Public Health.

Types of Use	*Treatment Level*		
	Disinfected Tertiary	Disinfected Secondary	Undisinfected Secondary
Urban Uses and Landscape Irrigation			
Fire protection	√		
Toilet & Urinal Flushing	√		
Irrigation of Parks, Schoolyards, Residential Landscaping	√		
Irrigation of Cemeteries, Highway Landscaping		√	
Irrigation of Nurseries		√	
Landscape Impoundment	√	√*	
Agricultural Irrigation			
Pasture for milch animals		√	
Fodder and Fiber Crops			√
Orchards (no contact between fruit and recycled water)			√
Vineyards (no contact between fruit and recycled water)	√		√
Non-Food Bearing Trees			√
Food Crops Eaten After Processing		√	
Food Crops Eaten Raw	√		
Commercial/Industrial			
Cooling & Air Conditioning - w/cooling towers	√	√*	
Structural Fire Fighting	√		
Commercial Car Washes	√		
Commercial Laundries	√		
Artificial Snow Making	√		
Soil Compaction, Concrete Mixing		√	
Environmental and other Uses			
Recreational Ponds with Body Contact (Swimming)	√		
Wildlife Habitat/Wetland		√	
Aquaculture	√	√*	
Groundwater Recharge			
Seawater intrusion Barrier	√*		
Replenishment of potable aquifers	√*		

** Restrictions may apply*

Primary Wastewater Treatment *-The removal of particulate materials from domestic wastewater, usually done by allowing the solid materials to settle as a result of gravity, typically, the first major stage of treatment encountered by domestic wastewater as it enters a treatment facility. The wastewater is allowed to stand in large tanks, termed Clarifiers or Primary Settling Tanks. Primary treatment plants generally remove 25 to 35 percent of the Biological Oxygen Demand (BOD) and 45 to 65 percent of the total suspended matter. The water from which solids have been removed is then subjected to Secondary Wastewater Treatment and possibly Tertiary Wastewater Treatment.*

Secondary Wastewater Treatment *- Treatment (following Primary Wastewater Treatment) involving the biological process of reducing suspended, colloidal, and dissolved organic matter in effluent from primary treatment systems and which generally removes 80 to 95 percent of the Biochemical Oxygen Demand (BOD) and suspended matter. Secondary wastewater treatment may be accomplished by biological or chemical-physical methods. Activated sludge and trickling filters are two of the most common means of secondary treatment. It is accomplished by bringing together waste, bacteria, and oxygen in trickling filters or in the activated sludge process. Disinfection is usually the final stage of secondary treatment.*

Tertiary Wastewater Treatment *- Biological, physical, and chemical treatment processes that follow Secondary Wastewater Treatment. The most common Tertiary Wastewater Treatment process consists of flocculation basins, clarifiers, filters, and disinfection processes. The term Tertiary (Wastewater) Treatment is also used to include Advanced Treatment beyond filters.*

California has been a leader in this concept, serving several oil refineries and a seawater barrier with five qualities of water in addition to disinfected tertiary recycled water suitable for landscape irrigation. Customized treatment either at the central wastewater treatment plant or at customer sites is one possibility to add flexibility to add more customers at an acceptable cost.

Treated wastewater is reused in many areas of the State even when no projects have been constructed with this intent. For example, about 90 percent of municipal wastewater discharged in the San Joaquin Valley is reused. A discharge into a river becomes part of the river flow that may be diverted downstream for farms or other cities. This indirect reuse, that is, reuse after treated wastewater has passed through a natural body of water, is illustrated in Figure 3. A groundwater aquifer can also be the natural body for indirect reuse. Recycled water can be injected in wells or percolated from ponds and become a part of the groundwater supply that is later pumped out for use. Water that is retained in streams and wetlands maintains aquatic environments and scenic values. This "environmental water" is another unplanned benefit of indirect reuse of treated wastewater that is discharged into water bodies.

Most indirect reuse is unplanned, that is, there was no prearranged agreement or intention that the producer of the treated wastewater would maintain control of the effluent after discharge so that it would be reused downstream. The downstream reuse is an incidental result of effluent disposal by discharge and withdrawal downstream of river water. When such indirect reuse could occur, the wastewater discharge is regulated to protect the public health for the downstream beneficial use. Planned reuse typically involves direct reuse by delivering recycled water directly through pipes to the users of the water. Examples of direct reuse are also illustrated in Figure 3.

These concepts of direct and indirect reuse and planned and unplanned reuse are important in understanding the discussion of public health issues and public acceptance concerns regarding water recycling. They are also important in interpreting data on water reuse, which are not consistent in indicating whether they include only planned or only direct reuse.

Reverse osmosis is an advanced treatment technology that is used in certain situations where a high degree of pathogens or chemicals must be removed, especially in indirect potable reuse and industrial applications.

Furthermore, unplanned indirect reuse already makes a vital contribution to the State's water supply. In terms of making the greatest impact on augmenting the State's water supply, emphasis should be placed on reusing recycled water that has no opportunity to be reused downstream, for example, discharges directly to the ocean. This understanding may affect the priority of the State's efforts in encouraging new water recycling projects. In terms of statewide water resources planning, DWR recognizes this distinction by classifying water recycling projects in coastal and some other areas as "new water supplies" because they offset the need for other new supplies rather than offsetting downstream reuse that already may occur.

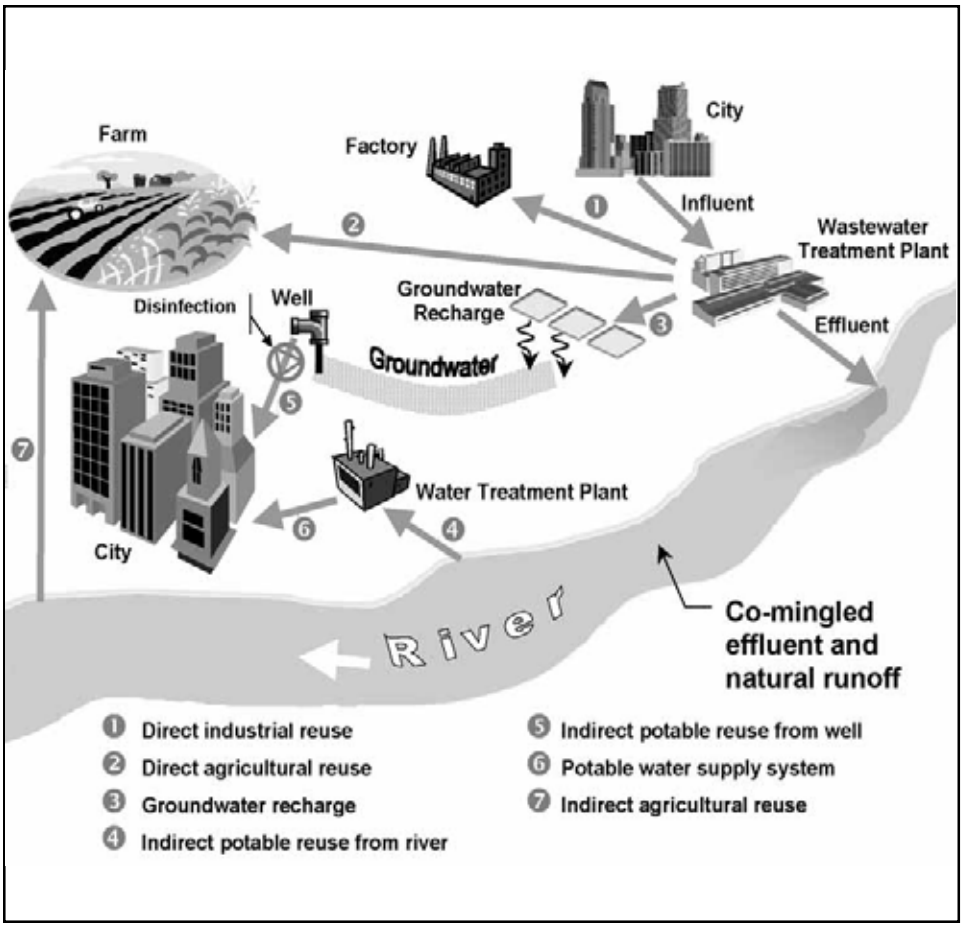


Figure 3. Direct and Indirect Recycled Water Use.

Research surveys conducted to evaluate public acceptance of recycled water have confirmed the intuitive expectation-the more direct and frequent the human contact with the recycled water, the more concern of the public, mainly related to public safety perceptions. While direct human ingestion has been proposed and researched, recycled water even with highly sophisticated treatment technologies has never been publicly accepted for direct potable use in the United States. With few exceptions nonpotable uses, including some uses with high potential for human contact, such as golf courses or schoolyards, have potential for infection or other disease to indiscernible background levels.

While direct potable reuse is not practiced, forms of indirect potable reuse have taken place in California and have been proposed. The Task Force did find a widely divergent acceptance of these indirect potable reuse concepts. Groundwater recharge by replenish-

ing groundwater aquifers with recycled water has been practiced in California since 1962 in the form of percolation from ponds through soil before reaching the groundwater and since the 1970s in the form of direct injection of advanced treated recycled water into aquifers. Because the aquifers serve as a potable water supply through wells, recharge is a form of indirect potable reuse. Various forms of tertiary wastewater treatment are provided before the recycled water is allowed to reach the aquifer. These levels of treatment are higher than would generally be required for discharges to a typical stream or the ocean. There are also natural mechanisms in the soil that provide treatment of any water that percolates down. As with all uses of recycled water, a strong governmental structure regulates the types of treatment necessary to protect public health, and generally the public has accepted the judgment of the public health authorities. However, in some communities public concern has halted the implementation of indirect potable reuse projects. The Task Force focused considerable attention to public acceptance and health issues and made recommendations to address these.

WATER RECYCLING POTENTIAL

Estimating the future potential of recycled water use is an uncertain task. Water planners will be continually evaluating a variety of alternative water sources to determine the most cost-effective and feasible options at the time. While there are increasing public health concerns not only with respect to recycled water but also with all of our sources of water, technology is becoming more effective to cope with some chemicals of concern. Technology is evolving that will make recycled water treatment, as well as alternative sources, such as desalination, more economical. As with conventional water sources, most of the cheapest opportunities to exploit recycled water have already been undertaken. It is difficult to predict exactly how recycled water will compare with alternative supply options in the long term.

Recycled water, river water, and imported water feed the Rio Hondo Spreading Grounds to replenish groundwater in Los Angeles County. This indirect potable reuse has been practiced by the County Sanitation Districts of Los Angeles County since 1962.

Nevertheless, some studies have been conducted to estimate future potential. The most comprehensive were two regional studies covering the metropolitan areas of the Southern California coastal region and the San Francisco Bay Area. In addition, surveys have been conducted to poll agencies regarding the potential projects within their service areas. Another point of reference is the total amount of municipal wastewater that is produced or projected to occur. The amount of treated municipal wastewater produced currently in California is estimated to be about 5 million acre-feet per year. With recycled water use currently at a level of approximately 500 thousand acre-feet per year, about 10 percent of available treated effluent was reused in planned water recycling projects. California's

current population of 35 million is expected to increase by 3.5 million by 2007 to 38.5 million. By 2030, the population is projected to reach 52 million, a 17 million (50 percent) increase over current population. By 2030, the amount of wastewater available for water recycling projects is estimated to increase to about 6.5 million acre-feet per year.

Serrano's championship golf course is irrigated with recycled water in El Dorado Hills, California.

With these studies and projections of available wastewater as a foundation and the caveats of uncertainty, projections for recycled water use are presented in Table 2 and shown in Figure 4 in the form of ranges. In 2030, the midrange amount of projected increase in recycled water use is about 1.5 million acre-feet per year, which would be about 23 percent of the available municipal wastewater. Because of the special public health concerns that have been raised regarding indirect potable reuse, nonpotable and planned indirect potable uses have been separated in the table. Planned indirect potable uses include groundwater recharge, a portion of seawater intrusion barriers and surface reservoir augmentation for potable supply.

As was discussed earlier, many inland discharges of treated wastewater are indirectly used downstream. Thus, not all of the projected additional recycled water use is considered new water that augments the State's water supply. However, with most of the urban demand occurring in coastal areas where discharges pass through to the ocean or saline bays, it is estimated that 1.2 million acre-feet of new water will be yielded with recycled water use by 2030. When compared to the household use of the additional 17 million Californians, this new water could substitute for enough fresh water to meet the household water demands of 30 to 50 percent of the household water demand.

As with many water supply options facing California to maintain adequate future water supplies, considerable capital investment will be required for water recycling facilities. As with surface water storage, conjunctive use and ocean desalination projects, for example, funds for design and construction of recycled water projects must be raised at the outset of a project even though revenue to pay the debt will become available over many years of project operation.

Table 2. Estimated Existing and Projected Potential Use of Recycled Water in California (taf/year).

Year	***2002***	***2007***	***2010***	***2030***
Planned non-potable use	400-510	520-740	770-1,000	1,520-1,850
Planned indirect potable use	50-70	80-120	120-170	330-400
Total	**450-580**	**600-860**	**890-1,170**	**1,850-2,250**
Increase beyond 2002		***150-280***	***440-590***	***1,400-1,670***

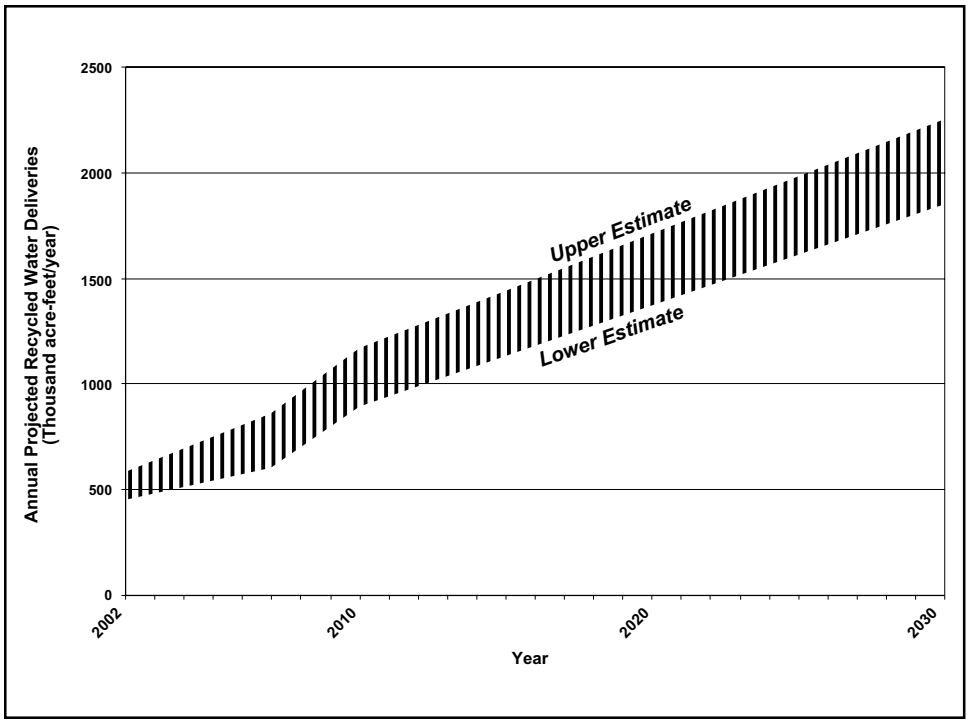


Figure 4. Projection of Recycled Water Deliveries in California through 2030.

A variety of factors can affect costs of recycled water projects, including types of use, the degree of wastewater treatment required, and the distance to deliver the recycled water. The cost to build the capacity to treat and deliver one acre-foot of recycled water annually can vary significantly. When capital costs and other factors are annualized over the life of a project, individual projects can vary from practically no extra cost to treat and deliver recycled water to over $2,000 per acre-foot of delivered water, including capital and operational costs. It should be noted that average unit costs have been estimated to be about $600 per acre-foot. These costs are generally comparable to other water supply options, for example, new dams and reservoirs or desalination.

Fortunately, most projects will cost well below the upper limit. Utilizing the studies referred to above, an average cost to build the capacity to yield one acre-foot per year was assumed to be $6,500 for nonpotable reuse projects and $6,800 for indirect potable reuse projects. The increased cost for indirect potable reuse may be due to higher levels of treatment and reliability features. Applying these unit costs to the projections in Table 1, the ranges of aggregate capital costs were estimated, as shown in Table 2.

To add 1.40 to 1.67 million acre-feet per year of recycled water by 2030, an estimated capital investment of between $9 billion to $11 billion will be required between now and 2030, as shown in Table 3. The cumulative investment over time is shown in Figure 5. A State bond issue, Proposition 50, was passed by voters in 2002, which included funds for water recycling projects. These funds are anticipated to take until 2005 to allocate. The average additional funds that will be needed after 2005 until 2030 are between $360 to 430 million per year. (Note that all costs are expressed in year 2000 dollars.)

It is important to note that water recycling projects can meet water quality needs by reducing wastewater flows into the environment, increasing water that can be available to endangered species habitat, conserving energy, or achieving other needs or goals. Thus, the investment in water recycling may yield benefits beyond just meeting water supply needs.

Table 3. Total Capital Cost Estimates to Augment Recycled Water Supplies, Million dollars.

Years	*2003-2007*		*2008-2010*		*2011-2030*	
Range	**Low**	**High**	**Low**	**High**	**Low**	**High**
Non-potable use	780	1,495	1,625	1,690	4,875	5,525
Indirect planned potable use	205	344	273	341	1,433	1,570
Cumulative cost beyond 2002	**985**	**1,839**	**2,883**	**3,870**	**9,191**	**10,965**

Note: Calculations based on USBR, Southern California Comprehensive Water Reclamation and Reuse Study, September 2000 draft. (Dollars expressed in year 2000 values)

Water recycling projects are generally constructed and operated by local agencies. Operation and maintenance costs are incurred after the projects are constructed. These costs also vary widely. One sampling of proposed projects had estimated operation and maintenance costs in the range of $70 to 490 per acre-foot, with an average of $300 per acre-foot.

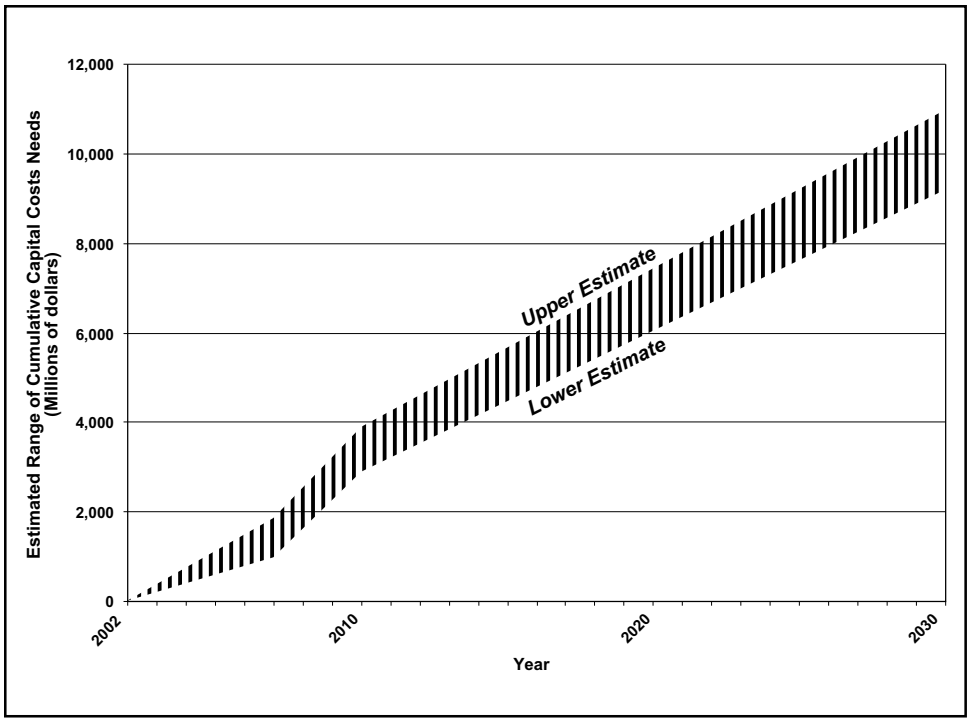


Figure 5. Cumulative Capital Investment in Water Recycling through 2030 in California.

The 12.8 mgd Recycled Water Facility of Delta Diablo Sanitation District treats recycled water for landscape irrigation and for cooling towers at electrical power stations in Pittsburg, CA.

The capital and operation and maintenance costs are recovered mainly through revenues from discharges into sewers, users of recycled water, and potable water customers who share the benefits of the added local supply of water. Freshwater projects are generally self-sustaining, but there is precedent for State or federal subsidy of water projects when particular projects have financial difficulty and there are social, economic, or environmental goals transcending a local project. Because water recycling projects are often more expensive than other local water supplies, the State and federal government have been providing subsidies for capital costs. In addition, some regional water agencies have provided annual subsidies to local agencies based on recycled water deliveries. The State funding has been in the form of low interest loans or partial grants for planning, design, and construction of projects. The sources of these funds have been bond issues, the last of which was Proposition 50 in 2002. The federal funds have been appropriations for partial grants to local agencies for design and construction. The Task Force has recommendations in Chapter 4 regarding additional funding.

CHAPTER 3

Legal & Regulatory Framework for Water Recycling

Signs complying with State regulations help ensure the safe use of recycled water.

Water recycling is accomplished in California with the involvement of many entities at all levels of government and in some cases investor-owned utilities. Water supply and wastewater districts are primarily responsible for the planning, design, and implementation of the over 200 projects operating in the State. The SWRCB and the U.S. Bureau of Reclamation have played major roles in providing capital funding for local projects. Several large regional wholesale water agencies, for example, the Metropolitan Water District of Southern California and the San Diego County Water Authority, have also provided significant financial assistance to local agencies. DWR and CALFED have incorporated water recycling in the water supply planning for the State. DWR has provided planning assistance in regional studies and a coordination and promotional role in facilitating water recycling.

Regulation of water recycling is vested by State law in SWRCB and Department of Health Services (DHS). Permits are issued to each water recycling project by one of the nine Regional Water Quality Control Boards (RWQCB) that are part of the SWRCB. These permits include water quality protections as well as public health protections by incorporating criteria established by DHS. The criteria issued by DHS are found in Title 22 of the California Code of Regulations. DHS does not have enforcement authority for the Title 22 criteria; the RWQCBs enforce them through enforcement of their permits containing the applicable criteria. To protect public drinking water supplies, DHS also has regulations to prevent cross connections between recycled water systems and potable water systems. Local health departments and DHS have enforcement authority over the DHS cross connection prevention regulations.

The applicability of the California Plumbing Code (California Code of Regulations, Title 24, Part 5) to various types of buildings and types of plumbing depends on the authorities of various State agencies that govern State-owned buildings, residential occupancies, medical facilities, schools and other occupancies. For example, the Department of Housing and Community Development (HCD) makes adoptions in the California Plumbing Code, which is based on the Uniform Plumbing Code with California amendments, for applicability to

multi- and single-family residential occupancies. The California Building Standards Commission reviews proposed amendments to the California Building Standards Code (California Code of Regulations, Title 24), such as HCD's, and approves them for publication.

There are lesser roles for other agencies and other applicable laws that become important in specific instances. The 1996 "Memorandum of Agreement between the Department of Health Services and the State Water Resources Control Board on Use of Reclaimed Water" provides a good description of the regulatory roles and joint responsibilities of these two agencies. This document is in Appendix B. It should be noted that since 1996, a change in regulations allows operators of recycled water treatment plants consisting of only tertiary or advanced treatment processes to be certified as water treatment plant operators in lieu of wastewater treatment plant operators. Also, the authority of local health agencies to impose requirements is addressed in section II.C. The Task Force has raised this as an issue and has made Recommendation 4.3.3 to resolve it.

The most pertinent laws and regulations applicable to recycled water are found in California State codes and the California Code of Regulations. Most of these are provided in Appendix C.

CHAPTER 5

Additional Important Recommendations

In addition to the key recommendations set forth in Chapter 4, the Task Force has adopted additional recommendations that will also enhance our ability to implement water recycling projects. These additional recommendations are presented in this chapter organized under the same six issue areas described in Chapter 4. While considered less important than the previous set of recommendations, they nevertheless are feasible to implement and in some cases are essential to address specific types of projects. The numbering of issues continues from the previous chapter.

1. Funding for Water Recycling

1.2. FUNDING COORDINATION

Issue

Different funding agencies often lack coordination of their efforts so as to maximize benefits and prioritize funding.

Recommendation 1.2.1.

A revised funding procedure should be developed to provide local agencies with assistance in potential State and federal funding opportunities. Assistance and guidance would be provided to such agencies as follows:

a. The SWRCB would facilitate a newly established Water Recycling Funding Coordination Committee (Committee) to coordinate applicant's funding needs with the appropriate funding agencies. The Committee would guide the local agency through the identification of (1) Correct funding source(s), (2) Accountability measures and (3) Monitoring and assessment reporting requirements.

b. The Committee would establish quantifiable objectives to be used in the review of a proposed project. Objectives should include 1) the local, regional, and State benefits, and; 2) non-water supply benefits, resulting from the project. When reviewing proposed projects, the Committee would recommend modifications to maximize the benefit to the State's water supply.

c. The Committee would work cooperatively with funding agencies, streamlining project selection while ensuring an open process for setting selection criteria. Peer review

and public review of the project selection would also be provided. The Committee would work to ensure that projects have an appropriate level of scientific review, and ongoing monitoring and data analysis.

d. The Committee should maintain a listing of local, State and federally funded projects. The list should include detailed project cost and water supply yield information.

Approach and Implementation:

The SWRCB should facilitate the establishment of a Committee to implement the recommendation above. Members of the Committee would include representatives from the SWRCB, DWR, USBR, CALFED, the California WateReuse Association and other stakeholders. The committee would coordinate with the CALFED Bay-Delta Program, which is dedicated to accelerating the implementation of cost-effective actions to conserve and recycle water throughout the State as articulated in its August 2000 Record of Decision. Time frame: January 2004 - ongoing.

1.3. REGIONAL PLANNING CRITERION

Issue

Funding for water recycling projects could be more beneficial when regional planning is taken into consideration.

Recommendation 1.3.1.

State funding agencies should use information from completed regional studies when determining the prioritization of funding, for those projects encompassed under an existing regional plan. The process does not exclude projects where regional plans do not exist.

Approach and Implementation:

State funding agencies including SWRCB, DWR and DHS should use available information from completed studies as a basis to prioritize funding. Time frame: January 2004 - ongoing.

1.4. FUNDING INFORMATION OUTREACH

Issue

Potential applicants for funding encounter difficulties in finding information on funding sources and understanding their procedures.

Recommendation 1.4.1.

Public information to support education and outreach efforts should be provided by having funding agencies:

a. Present public funding availability at statewide conferences,

b. Establishing an Annual Water Recycling Funding Information Workshop to assist participants in preparing funding application packages for all funding sources (Federal and State) available, and

c. One common website.

Approach and Implementation:

The SWRCB should be in charge of setting up and maintaining a common water recycling website that would direct potential applicants and include information on funding sources and procedures. The website should go on line no later than June 2004.

SWRCB should organize annual water recycling information workshops to assist funding applicants in preparing their application packages. In addition, SWRCB should present funding information availability at statewide conferences. Time frame: September 2003 and ongoing thereafter.

Recycled water can be used for landscape irrigation of parks, as shown in the 8th Street Linear Park, Pittsburg, CA..

1.5. DEPARTMENT OF WATER RESOURCES TECHNICAL ASSISTANCE

Issue

For successful water recycling projects, there is a great need for technical assistance in terms of local and regional planning as well as the study of emerging issues and the exploration of new technologies.

Recommendation 1.5.1.

Funding sources should be expanded to include sustainable State funding (research funding to DWR only) for DWR's technical assistance and research, including flexibility to work on local and regional planning process, on-going studies of emerging issues, and new technology.

Approach and Implementation:

The Legislature should pass a bond allocating funds for a sustainable State funding for DWR technical assistance for water recycling. This includes feasibility studies, research and development, pilot testing, technology development and the study of emerging issues. Time frame: July-December 2003.

1.6. PROJECT PERFORMANCE ANALYSIS

Issue

There is a lack of a comprehensive cost/benefit analysis of past water recycling projects. Such information is crucial for future planning and projections.

Recommendation 1.6.1.

Funding agencies should be provided with the resources to perform comprehensive analyses of performance of existing water recycling projects. The analyses should include determina-

Purple colored pipes ready for installation to deliver recycled water. Purple has been designated for the piping used for recycled water in the California Health and Safety Code Section 116815.

tion of actual costs and benefits, and recycled water deliveries. The funding agencies should conduct these analyses jointly in an open and peer-reviewed process. These analyses should quantify recycled water yield in acre-feet per year and compare actual yield with planned yield. The analyses should list other benefits of recycling (such as water supply reliability), and where possible to quantify these benefits. They also should provide costs in equivalent units such as equivalent annual cost.

Approach and Implementation:

The Legislature should pass a bond to fund a comprehensive analysis to determine the performance (cost and benefits) of past water recycling activities and project future performance. Funds would be administered by the SWRCB. Time frame: July-December 2003.

2. Public Dialogue / Public Outreach

(There are no additional recommendations beyond those listed in Chapter 4.)

3. Plumbing Code/Cross-Connection Control

3.3. RECYCLED WATER SYMBOL CODE CHANGE

Issue

The Department of Housing and Community Development (HCD) initiated amendments to the California Plumbing Code, Sections 601.2.2 and 601.2.3, which covers recycled water systems within HCD controlled occupancies (hotels, apartment houses, employee housing, accessory buildings in mobile home parks, etc.). The Code amendments require that "A universal poison symbol of skull and crossbones shall be provided." The Statement of Reasons for these sections states "... to provide additional measures to protect the health and safety of the public...."

The plumbing code already requires labeling of recycled water piping. The marking requirements for recycled water are continuous along the piping.

The skull and crossbones requirement is perhaps intended to supply a non-English indication that the contents of the pipe are not suitable for ingestion. There is a symbol in the Water Recycling Criteria (CCR Title 22, Section 60310(g)) that can be used to indicate that water is not safe for consumption yet not alarm the public.

The quality of recycled water required for use within buildings of the type controlled by HCD (CCR Title 22, Sections 60306 and 60307) is also considered safe for uses such as park and playground irrigation, truck crop irrigation, and swimming - uses where some ingestion is expected. The anticipated ingestion exposure for swimming is 100 mL and the expected risk of illness when swimming in this quality recycled water is approximately 1 in 10,000. It is misleading to suggest that recycled water is a poison.

Recommendation 3.3.1.

Housing and Community Development Department should submit a code change to remove the requirement for the skull and crossbones symbol in Sections 601.2.2 and 601.2.3 of the California Plumbing Code.

Approach and Implementation:

DWR and DHS should request Housing and Community Development Department to initiate the change in time for the California Building Commission's 2004 annual code cycle.

3.4. STAKEHOLDER REVIEW OF PROPOSED CROSS-CONNECTION CONTROL REGULATIONS

Issue

DHS is drafting proposed changes to the cross-connection control regulations. There are concerns with the proposed requirements in the working draft of revisions. There would be a requirement for a double check valve on fire systems supplied by the potable water system where recycled water is used in a separate piping system within the same building. This requirement would make it difficult or impossible to retrofit a building with an existing fire system. The double check assembly would cause a pressure drop of approximately 10 psi. This might be enough to compromise the performance of a fire system that has not been designed for the head loss. Fire systems may not be engineered to exactly fit a building of site specification and it may be that a fire system can absorb a 10 psi drop without compromising the system. New systems can be designed to address the pressure drop.

Another issue to resolve is a conflict between the current Title 17 requirements and the California Plumbing Code. The California Fire Marshall is opposed to backflow devices on Class I and II fire systems and has amended Sections 603.4.18 and 603.4.19 of the 2001 California Plumbing Code to prohibit the installation of these devices.

Recommendation 3.4.1.

Stakeholders are encouraged to review the DHS draft changes of the Title 17 Cross-connection Control requirements and comment as appropriate.

Approach and Implementation:

DHS should carry out this recommendation beginning July 2004.

3.5. CROSS-CONNECTION RISK ASSESSMENT

Issue

Despite a long history of water reuse in California, the question of safety of water reuse is still difficult to define and delineation of acceptable health risks has been hotly debated. Health risks associated with exposure to enteric viruses in recycled water were analyzed using a quantitative microbial risk assessment approach in 1990s. Monitoring data from

Los Medanos Energy Center utilizes recycled water for cooling in Pittsburg, CA.

four wastewater treatment facilities in California on enteric virus concentrations in unchlorinated secondary effluents were used as baseline data for the risk analysis. This assessment needs to be expanded and refined.

Recommendation 3.5.1.

The State should support a thorough assessment of the risk associated with cross-connections between disinfected tertiary recycled water and potable water. To assess potential health risks associated with the use of recycled water in various reuse applications, new comprehensive risk assessment should be carried to identify:

- the risk of a worst case cross-connection,
- the likelihood of a cross-connection in various use situations, and
- microbiological and chemical exposure risks.

The risk assessment would provide a scientific basis for regulations controlling potential cross-connections.

Approach and Implementation:

DHS in collaboration with other State and federal agencies and research institutions should carry out this recommendation beginning July 2004.

4. Regulations and Permitting

4.5. PERMITTING PROCEDURES

Issue

As a minimum, each recycled water distribution system must have at least one permit from a RWQCB. The permit must incorporate statewide standards adopted by DHS and may include other recommendations by DHS protective of public health. All new projects or additions are required to submit engineering reports for DHS review. Some agencies have found the procedures of DHS and the RWQCBs to be lengthy and cumbersome. There may be opportunities to streamline these procedures. Aspects of this issue that have been suggested for consideration are 1) investigation of the timing of permits vis-à-vis the CEQA process, 2) the permitting of seasonal storage, and 3) the development of a one-stop approach to permitting. There is an overlap in the permitting issues and the uniform interpretation of State standards issue addressed in the previous chapter. After analysis of the issue, the Task Force makes the following recommendations in addition to those captured in under the uniform interpretation of State standards issue.

Recommendation 4.5.1.

DHS should continue to maintain and update its “California Health Laws Related to Recycled Water - The Purple Book,” which is an excellent resource for the permit requirements related to recycled water projects.

Approach and Implementation:

The Purple Book, named after the standard color used for recycled water piping, is an effective resource. Often such resources are left to languish by their creators. The Task Force recognizes this useful document and urges it maintenance and encourages its greater accessibility by improving the DHS Web site to be able to find it. Time frame: July 2003-on-going thereafter.

Recommendation 4.5.2.

Association of California Water Agencies and California Association of Sanitation Agencies should clarify for their members: under what circumstances water and wastewater agencies must seek permits from local land use and building authorities for recycled water projects.

Approach and Implementation:

In addition to State permits, there may be local permits required for the construction of water recycling facilities. There has been confusion on the part of project sponsors and local permitting authorities regarding when it is appropriate to require or obtain such permits. It would be a service for the water recycling agencies if the associations representing water and wastewater agencies to clarify the circumstances such permits are required. Time frame: July-December 2003.

Recommendation 4.5.3.

DHS should clarify the requirements for engineering reports to cover multiple sites of similar use.

Approach and Implementation:

An increasing number of recycled water projects involve distribution systems with dozens or hundreds of individual sites and continual additions of new customers as the systems expand. While DHS review is important to protect public health, the production of formal engineering reports for each site and each new addition can be cumbersome when the issues related to the sites have already been addressed for previous sites of similar use. DHS should clarify the requirements for engineering reports and the formats for them that would reduce the work in their preparation when multiple sites of similar use are involved. Time frame: January-March 2004.

Recommendation 4.5.4.

State and local tax incentives should be provided to recycled water users to help offset the permitting and reporting costs associated with the use of recycled water.

Approach and Implementation:

Recycled water users may incur additional costs for using recycled water instead of potable water. For example, separate plumbing systems must be installed to deliver two sources of water. The users may also be required to keep logs of all repair and mainte-

nance activities on the recycled water piping systems to verify that cross-connections have not occurred. Many agencies provide a financial incentive to use recycled water by selling the recycled water at a lower price than potable water, sometimes using potable water revenue to subsidize the recycled water system costs. Another mechanism could be providing tax incentives to users. The Legislature should consider tax incentives to offset costs incurred by users of recycled water. Local agencies should consider tax or other financial incentives to offset costs incurred by users of recycled water. Time frame: July 2003 and on-going thereafter.

4.6. SOURCE CONTROL

Issue

Source water/wastewater quality is a significant potential impediment to the expansion of recycled water usage in California. While it can be resolved through technology and management, the costs both monetarily and to public perception of recycled water can be expensive. Local agencies promoting water recycling must be aware of the potential presence of chemicals in recycled water and the potential public perception of what might be in the water. Thus, they must ensure that there is a strong source control program in place to maintain public confidence in the safety of water recycling projects.

Recommendation 4.6.1.

Local agencies should maintain strong source control programs to protect the quality of recycled water for potential uses and protect public health.

Approach and Implementation:

Local agencies maintain source control programs that include identification of all dischargers into sewer systems, analyses of discharge contributions, establishment of discharge limits on chemicals of concern, strong enforcement of limits, and public education programs regarding household chemicals that are unregulated. Time frame: July 2003 and on-going thereafter.

5. Economics of Water Recycling

5.2. ECONOMIC ANALYSIS

Issue

A project may be economically feasible, but not financially feasible and vice versa. Economic analyses provide more transparency on true benefits and costs and increase the probability of identifying project beneficiaries that can make the project more financially feasible and economically justified. Often project feasibility studies overlook economic analyses and focus on financial analyses.

Recommendation 5.2.1.

Local agencies are encouraged to perform economic analyses (quantifying total benefits and costs) of water recycling projects in addition to financial analyses (to determine cash flow) even if they are not seeking State or federal funding.

Approach and Implementation:

Agencies need to include such analysis in their feasibility studies once a guidebook on conducting economic feasibility analysis is developed pursuant to Recommendation 5.1.1 (e) Time frame: January 2004 - ongoing.

Recommendation 5.2.2.

A financial and an economic analysis should be included as two of the funding criteria in State and federal funding programs. Projects proposed for funding should be financially feasible (sufficient cash flow to pay for and maintain the project) and economically feasible (total statewide project benefits exceed total statewide project costs). The funding agencies should provide guidance and assistance for all funding applicants to conduct the analyses; and review the analyses in applications to ensure they are done appropriately and consistently. These analyses need not duplicate appropriate analyses already performed by local agencies.

Approach and Implementation:

A revised funding procedure as required by Recommendation 1.2.1 needs to include a requirement that agencies applying for public funds submit a financial and an economic analysis to be eligible to receive funding. Time frame: January 2004 - ongoing.

6. Science and Health/Indirect Potable Reuse

6.3. STATEWIDE SCIENCE-BASED PANEL ON INDIRECT POTABLE REUSE

Issue

After extensive discussions and deliberation on this issue, recommendation was made not to reconvene the California Indirect Potable Reuse Committee. The State of California Department of Health Services should be able to make informed and scientific determinations on issues related to indirect potable reuse based on the following publications.

- "Report of the Scientific Advisory Panel on Groundwater Recharge with Reclaimed Wastewater", Prepared for State of California, State Water Resources control Board, Department of Water Resources, and Department of Health Services, November 1987.
- "Issues in Potable Reuse - The viability of augmenting drinking water supplies with reclaimed water", National Research Council, 1998.
- " A Proposed Framework for Regulating the Indirect Potable Reuse", Prepared by The California Potable Reuse Committee, January 1996.
- DHS Draft Groundwater Recharge Regulations (August 2002)

Recommendation 6.3.1.

It is recommended not to reconvene the statewide science-based panel to address indirect potable reuse. However, it is recommended to convene a new statewide panel to address issues related to indirect potable reuse as presented in recommendation 2.2.6.

Approach and Implementation:

The proposed panel on indirect potable reuse is described in Recommendation 2.2.6.

CHAPTER 6

Summary & Implementation

While the Recycled Water Task Force has identified numerous obstacles and impediments to water recycling in California, it has also found that California has exhibited overall support for water recycling and has in place a very effective regulatory environment to ensure the safe use of recycled water and still allow use at over 4,000 farms, parks, golf courses, commercial and industrial enterprises, and other sites. In most cases, significant obstacles are not present or may be overcome in the inevitable process of integrating the multitude of interests into the planning process for projects.

The emphasis is to improve the way all levels of government function and assist each other and the public to enhance the ability for cost-effective and safe projects to proceed and help satisfy the growing demand for water in California. The Task Force focused its attention on the issues and solutions that it thought would make the most difference and could be effectively implemented. The recommendations of the Task Force have been discussed in the previous two chapters and are analyzed in more depth in the white papers of the six workgroups of the Task Force. They are summarized in Table 1.

As can be seen from the table, if we are to remove the obstacles to water recycling, virtually every entity involved in water recycling activities has a role to play in implementing the recommendations. The time frames for implementation are believed to be realistic, but many factors and priorities of the various entities will come into play that the Task Force could not assess. It is important, however, that the recommendations not be displaced by other priorities and then forgotten. The various agencies need to display their commitment to fulfill these recommendations, even if they need to firmly establish their own timetables.

The fulfillment of the recommendations requires resources and a will to take action. In many cases they call upon all levels of government, including local agencies, to take a different attitude and approach in the conduct of their missions and the development of projects. There is a need for greater willingness to listen to alternative viewpoints and concerns, whether they come from the public or recycled water customers or from other governmental agencies. There is also the need for greater effort to ensure the legal sound-

ness of governmental decisions and to communicate them effectively and respectfully. The three primary agencies involved in assisting this Task Force, DWR, SWRCB, and DHS, should continue their collaboration to insure a timely implementation of the recommendations. It is expected that with DWR taking a leadership role, the other agencies would assign staff to assist in seeing the recommendations reach fruition.

There is tremendous potential for increased use of recycled water in California. The Task Force is grateful for the opportunity to assist the State in fulfilling this potential.

Sand Canyon Reservoir, where recycled water is stored by Irvine Ranch Water District before delivery to customers for nonpotable uses.

Table 4. Summary of Task Force Recommendations.

Recommendation	*Implementing Agency*	*Time Frame*
* * * *Key Recommendations* * * *		
{1.1} Increase State and federal funding for reuse/recycling beyond current sources.		
1. State funding for reuse/recycling should be increased beyond Proposition 50 and other current sources.	Leg./SWRCB	Jul.-Dec. 03
2. The California Water Commission, in cooperation with DWR and SWRCB, is strongly encouraged to seek federal cost sharing legislation for water recycling.	CWC/ DWR/ SWRCB	Jul.03-ongoing
{2.1} Engage the public in an active dialogue using a community value-based decision-making model in planning water recycling projects.	SWRCB/DWR	Jul.03 – ongoing
1. Increase public participation through vigorous outreach, augmenting the notification requirements stipulated by CEQA and NEPA.	BDPAC Local agencies	Jan.04 – Jan.05 Jul.03-ongoing
2. Hold more public meetings to gather and supply information at appropriate venues.		
3. Make project decisions that respect and incorporate the community's values and concerns (considering growth, coordination with local planning, environmental justice issues, et cetera).		
4. Convene an independent advisory committee composed of experts in the field and consumers from a variety of viewpoints who have no vested interest to review the proposed project alternatives, its implementation and operation where needed.	Local agencies	Jul.03-ongoing
5. Educate and consider with the public all the alternatives for locally achieving water supply goals.		
6. Local Agencies cultivate and utilize the media opportunities for their projects.		

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	*Implementing Agency*	*Time Frame*
{2.2} Establish Leadership support for water recycling to include convening a statewide panel to address issues related to indirect potable reuse.		
State Support		
1. Take a leadership role on water recycling		
a. Develop a common language of referring to recycled water treatment levels and uses to improve public discussions.	Leg./DHS	Fall 03-Jul.04
b. Set a standard signage for regulatory use which increases the public's understanding of recycled water.	Leg./DHS	Fall 03-Jul.04
c. Develop a consistent position on water recycling.		
d. Convey its mission to maximize recycled water use throughout all government levels via interagency collaboration.	DWR/SWRCB/ DHS	Sep.03-Jan.05
e. Facilitate projects and communicate the rules clearly to local health offices.		
f. Encourage recycled water use by using it in public agency buildings to flush toilets, and to irrigate city parks.	State/local gov.	Jul.03-ongoing
2. Provide funding for public education and outreach.	State/local gov.	Jul.03-ongoing
3. Work closely with local agencies on water recycling to include: technical assistance, greater education and clarification on recycled water use policy, coordination of existing and new recycled water informational programs.	DWR/SWRCB/ DHS	Jul.05-ongoing
Local Government Support		
4. Appropriate local agencies should adopt well-defined local recycled water ordinances.	Local Gov.	Jul.03-ongoing
Regulatory Agencies Support		
5. Building inspectors, code enforcement officers, etc., should effectively enforce the installation of types of plumbing that would allow the use of recycled water in accordance with local recycled water ordinances.	Local Gov.	Jul.03-ongoing
6. Convene a statewide independent review panel on indirect potable reuse to ensure adequate health and safety assurance for California residents.	CBDA	Jan.04-Jul.05

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	Implementing Agency	Time Frame
{2.3} Convene a Statewide panel to recommend changes to public schools and higher education curriculum.		
a. Develop a comprehensive water education curriculum for each grade (K-12) which incorporates recycled water in the Content Standards for California Public Schools: science standards and/or the history-social science standards.	Board of Ed.	Jul.03-Jan-07
b. Approach institutions of higher education to incorporate recycled water education into their curriculum.	DWR/UC/CSU	Jul.03- ongoing
c. Enhance existing programs, for example those offered through the Water Education Foundation, or other organizations.	DWR	Jul.04- ongoing
{2.4} Adopt a State-sponsored media campaign to increase public awareness and knowledge of recycled water:		
1. Develop a water issues information program for radio, television, and print.	State Agencies	Jul.04-ongoing
2. Work with organizations that have produced videos on water issues, including recycled water, and fund updates and expanded programming and encourage cable TV networks to broadcast these videos regularly throughout the State.	State Agencies	Jul.05-ongoing
3. Prepare op ed pieces for publication in newspapers throughout the State.	State/Local	Jul.04-ongoing
4. Retain an advertising agency/public relations firm to assist in the development of short messages with specific information on urgent topics such as drought, conservation, pollution prevention, water quality, stormwater, wastewater, or recycled water including indirect potable reuse. (Emphasis should be inclusive of the locales' diversity).	State Agencies	Jul.04-ongoing
{3.1} California should adopt its own Appendix J of the Uniform Plumbing Code in order to avoid the inconsistencies between the IAPMO version and other California regulations. Encourage adoption by the DWR of the recommended version of Appendix J (included as Appendix D in this report) at the earliest opportunity.	DWR	Jul.03-Sep.05
{3.2} Prepare DHS guidance to achieve more consistent interpretation of State standards.		
1. DHS guidance should be prepared that would clarify the intent and applicability of Title 22, Article 5. If guidance cannot be written to accomplish this, the regulation should be rewritten.	DHS	Jul.03-Sep.05
2. DHS guidance should be prepared that would clarify the requirement for testing in Title 22, Section 60316(a) and stress that alternatives to a pressure test are sufficient in many cases.	DHS	Jul.03-Sep.05
3. DHS should amend Title 22, Article 5 to incorporate inspection and testing requirements consistent with whatever requirements are adopted as part of a California version of Appendix J, as recommended in Recommendation 3.1.1.	DHS	Jul.03-Sep.05

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	*Implementing Agency*	*Time Frame*
{4.1.} **Health and Safety Regulation --** The Department of Health Services should involve stakeholders in a review of various factors to identify any needs for enhancing existing local and State health regulation associated with the use of recycled water.	DHS	Jul. 03-Jun.04
{4.2} **Investigate, within the current legal framework, alternative approaches to achieve more consistent and less burdensome regulatory mechanisms affecting incidental runoff of recycled water from use sites.**		
1. The SWRCB should convene a committee to review the legal requirements of federal and State statutes and regulations that relate to the regulation of incidental runoff and to determine the regulatory and enforcement options that are available to Regional Water Quality Control Boards.	SWRCB	Jul. 03-Jan. 04
{4.3} **Create uniform interpretation of State standards in State and county regulatory programs.**		
1. The SWRCB should appoint and empower a key person to provide oversight of the water recycling permits issued by the various regional boards. This person would act as an ombudsman to facilitate recycling and arbitrate conflicts.	SWRCB	Aug.03-ongoing
2. The DHS needs to take steps to ensure the uniform interpretation and application of Water Recycling Criteria in Title 22 of the Code of Regulations and other regulations applicable to water recycling.	DHS	Plan: Jul.-Oct.03 Imp: Nov.03-on
3. Conduct a legal review to determine whether authority exists for local health agencies to adopt water recycling requirements that are more restrictive than those included in Titles 17 and Title 22.	DHS	Jul.03-Oct.03
4. Investigate the water recycling programs in Florida to determine whether there are concepts that should be adopted in California.	SWRCB/DHS WateReuse	Jan.04-Feb.04
5. The RWQCBs should be more proactive during the planning of recycled water projects so issues can be addressed before design commences.	RWQCB	Jul.03-ongoing
6. Each RWQCB should have a resident expert on water recycling to provide consistency in permitting and coordinate with other RWQCBs in maintaining consistency.	RWQCB	Jul.03-ongoing

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	*Implementing Agency*	*Time Frame*
{4.4} Legislation to increase local flexibility to regulate water softeners.		
1. Local agencies should be empowered to regulate the discharge of residential water softeners in the same manner as other sources of discharge into sewers. Legislation should be proposed to amend the Health and Safety Code Sections 116775 through 116795 to reduce the restrictions on the local ability to impose bans on or more stringent standards for residential water softeners.	Legislature	Jul.03-Dec.03
2. On-going or proposed studies on water softeners should continue to be pursued to develop alternatives for salt reduction in recycled water. Funding should be sought for such studies.	Research related institutions	Jul.03-Sep.03
3. Within the current legal restrictions, local agencies should consider publicity campaigns to educate consumers regarding the impacts of self-regenerative water softeners and promote the use of off-site regeneration by service companies. They should also consider financial incentives to upgrade older inefficient appliances to the current standards.	Local Agencies	Jul.03-ongoing
{5.1} Develop a uniform method for analyzing projects and a consistent economic feasibility framework across funding agencies. This could be accomplished by an advisory team of economists, recycled water experts, and stakeholders.		
a. Identify a set of desirable characteristics for an economic feasibility analysis framework based on true benefits and costs for recycled water projects in California.	DWR / SWRCB / DHS	Sep.03-Aug.04
b. Review existing frameworks to find the commonalities and gaps based on the characteristics from a) above; add components to the framework that fill in the gaps.		
c. Develop a practical and implementable process to identify and include non-market benefits and costs into the framework.		
d. Develop a mechanism to increase the opportunity for identifying equitable capital and operational funding schemes according to the beneficiaries based on allocation of the benefits and costs in the economic analysis.		
e. Develop guidance to conduct an economic feasibility analysis.		
f. Develop a mechanism for information from the economic feasibility analysis to feed into the financial feasibility analysis and funding decision making.		
g. Develop appropriate benchmarks for comparing the incremental costs of developing recycled water with the cost of developing an equivalent amount through fresh water projects.		
{6.1} Expand funding sources to include sustainable State funding for research including research on treatment, testing and monitoring methods, development of innovative/emerging technologies, study of emerging issues and fundamental scientific principles addressing technology, public and environmental health.	Leg./DWR	Jul.-Dec. 03

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	Implementing Agency	Time Frame
{6.2} Encourage an integrated academic program on one or more campuses for water reuse research and education, which is expected to generate well-educated practitioners on water recycling production, quality, and use.	State	Jul.03-Dec.03
* * * *Additional Important Recommendations* * * *		
{1.2} Develop a revised funding procedure to provide local agencies with assistance in potential State and federal funding opportunities. a. The SWRCB will facilitate a newly established Water Recycling Funding Coordination Committee (Committee) to coordinate applicant's funding needs with the appropriate funding agencies. b. The Committee will establish quantifiable objectives to be used in the review of a proposed project. Objectives shall include 1) the local, regional, and State benefits, and; 2) non-water supply benefits, resulting from the project. c. The Committee will work cooperatively with funding agencies, streamlining project selection within one agency while ensuring an open process for setting selection criteria. d. The Committee shall maintain a listing of local, State and federally funded projects. The list should include detailed project cost and water supply yield information.	SWRCB/DWR/ DHS/USBR	Jan.04-ongoing
{1.3} State funding agencies will use information from regional studies to prioritize funding for projects encompassed under a regional plan. The process does not exclude projects where regional plans do not exist.	SWRCB/DWR/ DHS/USBR	Jan.04-ongoing
{1.4} Present information on funding availability through workshops, conferences and on the Internet.	SWRCB	Jan.04 - ongoing
{1.5} Expand funding sources to include sustainable State funding for DWR's technical assistance and research, including flexibility to work on local and regional planning, emerging issues, and new technology.	Legislature	Jul.03-Dec.03
{1.6} Provide funding agencies with the resources to perform comprehensive analysis of past recycling performance (costs and benefits) and projection of future performance.	Legislature	Jul.03-Dec.03
{3.3} Housing and Community Development Department should submit a code change to remove the requirement for the skull and crossbones symbol in Sections 601.2.2 and 601.2.3 of the California Plumbing Code. DWR and DHS should request HCD to initiate the change in time for the California Building Commission's 2004 annual code cycle.	DWR/DHS /HCD	2004 Annual Code Cycle Change

Table 4. Summary of Task Force Recommendations (Continued).

Recommendation	Implementing Agency	Time Frame
{3.4} Encourage stakeholders to review the DHS draft changes of the Title 17 Cross-connection Control requirements and comment as appropriate.	DHS	Jul.04-ongoing
{3.5} Support a thorough assessment of the risk associated with cross-connections between disinfected tertiary recycled water and potable water. The risk assessment would provide a scientific basis for regulations controlling potential cross-connections.	DHS	Jul.04-
{4.5} Permitting Procedures		
1. DHS should continue to maintain and update its "California Health Laws Related to Recycled Water - The Purple Book", which is an excellent resource for the permit requirements related to recycled water projects.	DHS	Jul.03-ongoing
2. ACWA and CASA should clarify for its members: under what circumstances water and wastewater agencies must seek permits from local land use and building authorities for recycled water projects.	ACWA/CASA	Jul.03-Dec.03
3. DHS should clarify the requirements for engineering reports to cover multiple sites of similar use.	DHS	Jan.04-Mar.04
4. State and local tax incentives should be provided to recycled water users to help offset the permitting and reporting costs associated with the use of recycled water.	Legislature and local Agencies	Jul.03-ongoing
{4.6} Maintain strong source control programs and increase public awareness of their importance in reducing pollution and ensuring a safe recycled water supply.	Local Agencies	Jul.03-ongoing
{5.2} Encourage local agencies to perform economic analyses of water recycling projects; and include such analyses as two of the funding criteria in State and federal funding programs.		
1. Local agencies are encouraged to perform economic analyses even if they are not seeking State or federal funding.	Local Agencies	Jan.04-ongoing
2. Include a financial and an economic analysis as two of the funding criteria in State and federal funding programs.	Funding Agencies	Jan.-04-ongoing
{6.3} Recommend not reconvening the statewide science-based panel to address indirect potable reuse.		

Attachment
City Ordinance
from
City of Glendale

Chapter 13.28 RECYCLED WATER SERVICE

Sections:

13.28.010 Policy.

A. It is declared to be the policy of the city to require recycled water to be used in a manner that is in compliance with all applicable laws, ordinances and regulations that will achieve the following:

1. Extend and enhance local water supplies by using recycled water for special nonpotable purposes to free up potable supplies for higher uses;

2. Reduce wastewater flows that would otherwise be lost to the ocean;

3. Prevent direct human consumption of recycled water; and

4. Control and limit run-off of recycled water by controlling the installation of systems using recycled water.

B. Where the use of recycled water is feasible, appropriate and acceptable to all applicable regulatory agencies for the purposes of landscape irrigation, agricultural irrigation, filling of decorative fountains, in office buildings for toilet flushing, construction water, industrial process water, or recreational/ornamental impoundments or other uses permitted by the regulatory agencies, it is the policy of the city to require the applicant, owner or customer to use recycled water in lieu of potable water. The director of public service shall determine in his or her discretion whether it is feasible or desirable to furnish the applicant, owner or customer with potable water either on a permanent basis or on an interim basis. Determinations on the specific uses to be allowed shall be in accordance with the requirements of all applicable regulatory agencies. Each such usage of recycled water shall, in addition, be subject to the availability of facilities and the feasibility of making such facilities

available now or in the foreseeable future. (Ord. 5112 § 31, 1996: prior code § 9-110)

13.28.020 Definitions.

For the purposes of this chapter, the words defined in this section shall have the meanings respectively ascribed to them and shall be interpreted or construed accordingly.

"Air-gap separation" means a physical break between a supply pipe and a receiving vessel which shall be at least double the diameter of the supply pipe, measured vertically above the top rim of the vessel, and in no case less than one inch.

"Approved backflow preventer" means a device installed to protect the potable water supply from contamination by recycled water. This device shall be recognized and approved for use for this purpose by the Los Angeles County department of health services.

"Connection fee" means a charge imposed by the city for providing recycled water service, including construction and/or installation of off-site and on-site facilities.

"Cross-connection" means any unprotected connection between any part of a water system used or intended to supply potable water and any service or system containing recycled or other water or substance that is not safe, wholesome and potable for human consumption.

"Director of public service" has the safe meaning and authority of the "director of public service" defined in Section 13.04.010.

"Nonpotable water" means water that has not been treated for human consumption in conformance with the drinking water standards referred to in the definition of potable water.

"Off-site facilities" means facilities under the control of the city including, but not limited to, recycled water pipelines, reservoirs, pumping stations, manholes, valves, connections, supply interties, treatment facilities, and other appurtenances and property. For recycled water service, off-site facilities shall be those upstream of the point of connection with the customer's on-site facilities located and starting at the downstream end of the meter tailpiece.

"On-site facilities" means facilities under the control of the applicant, owner or customer including, but not limited to, landscape irrigation systems and agricultural irrigation systems. For recycled water service, the on-site facilities shall be those downstream of the recycled service connection, which shall normally be the downstream end of the meter tailpiece.

"Potable water" means that water furnished to the customer that does not contain objectionable pollution, contamination, minerals or infective agents and is considered satisfactory for domestic consumption, and conforms to the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or any other applicable standards.

"Recycled water" has the definition set forth in Title 22, Chapter 4, of the California Administrative Code (hereinafter "code") and all subsequent amendments and shall mean water which, as a result of treatment of domestic wastewater, is suitable for a direct beneficial use or a controlled use that otherwise would not occur, such treatment of domestic wastewater having been accomplished in accordance with the criteria, including the level of constituents in combination with the means for assurance of reliability, as set forth in such code.

"Recycled water facilities" means facilities used in the storage, pumping and conveyance of recycled water. Recycled water facilities are intended to provide recycled water for uses such as landscape irrigation, agricultural irrigation, and construction or industrial process water.

"Recycled water service connection" means the point of connection of the customer's

recycled water line with the recycled water service line of the city, which shall normally be the downstream end of the recycled water meter tailpiece.

"Recycled water service line" means the city's facility between its recycled water distribution system and the recycled water service connection.

"Recycled water transmission mains" means recycled water lines and appurtenances purchased or constructed and owned by the city or which the city requires an applicant, owner or customer to construct but which are owned by the city. The city shall determine what facilities are recycled water transmission mains from time to time. The city's determination in regard to these matters shall be final and conclusive.

"Recycled water use area" means the property, or portion of property, which has been approved by the city for recycled water service in accordance with this chapter.

"User's recycled water supervisor" means a qualified person, designated by a recycled water customer and approved by the city, who shall be knowledgeable in the construction and operation of on-site facilities and irrigation systems, and in the application of the guidelines, criteria, standards, rules and regulations for recycled water.

"Water services administrator" means the administrator in charge of the water section within the public service department. (Ord. 5112 § 32, 1996: prior code § 9-111)

13.28.030 Area and conditions of service.

The director of public service shall control and schedule recycled water distribution to customers. The department shall provide recycled water service in accordance with this chapter to any applicant who meets the requirements of this chapter. The provision of recycled water service and the use of recycled water by any customer shall be subject to all the terms and conditions of this chapter. (Ord. 5112 § 33, 1996: prior code § 9-112)

13.28.040 Application-Fees and deposits.

A. An applicant for recycled water service shall file with the director of public service an application for service on a form designated by the director of public service. The application shall include a scaled drawing and written description delineating the proposed recycled water use area; the proposed location, size street adjacent or nearest to the recycled water use area; the proposed use or uses of recycled water; and any other information deemed necessary by the director of public service.

B. The applicant for recycled water service shall comply with all requirements of applicable federal, state and local statutes, ordinances, regulations, and other requirements including the payment of all fees required by the regulatory agencies. The director of public service may reject for filing any application where the director of public service determines that the applicant has failed to obtain any necessary prior approval of recycled water service from any federal, state or local office or agency.

C. Application fees and deposits shall be paid in accordance with Chapter 13.08 and shall be subject to all terms and conditions set forth in Chapter 13.08 and in this chapter. (Ord. 5112 § 34, 1996: prior code § 9-113)

13.28.050 Provisions.

Upon receipt of an application for recycled water service, the director of public service shall review the application and conduct any necessary investigation in order to determine whether the city shall provide recycled water service. The director of public service shall either approve, approve with conditions, or deny recycled water service. In approving or conditionally approving recycled water service, the director of public service shall find the following:

A. The provision of recycled water service to the applicant is compatible with the city's recycled water system, and that the location of the recycled water use area is reasonably accessible to the city's recycled water system.

B. Among other conditions of approval, the director of public service may require that the applicant construct specific on-site facilities in order to facilitate recycled water service. The director of public service may also require the applicant to make modifications in the on-site potable water system and to install an approved backflow preventer. The customer shall not make any changes in the recycled water system or facilities on property subject to recycled water service without prior approval from the water services administrator.

C. Any approval or conditional approval of an application for recycled water service shall, unless otherwise specified, be deemed to be approval or conditional approval of recycled water service only for the recycled water use area, for the location, size and type of all recycled water service connections and on-site facilities, and for the proposed use of recycled water, described in the application. (Ord. 5112 § 35, 1996: prior code § 9-114)

13.28.060 Recycled water service connection and meter charges.

A. Before a recycled water service connection shall be supplied to or installed on the premises, the customer shall pay to the city the sum of money necessary to cover all costs of the recycled water service connection including, but not limited to, the cost of a meter unless the city agrees to other arrangements in writing. The director of public service may, in his or her discretion, authorize a customer to install recycled water service connections and meters, subject to, prior approval of all plans, equipment, and material, and to ongoing inspection and approval of installation by the director of public service.

B. Before a recycled water service connection shall be supplied to or installed on the premises, the customer shall pay to the city the sum of money necessary to cover all costs incurred by the city in extending existing off-site facilities, including but not limited to the recycled water service line, in order to provide recycled water service to the customer unless the city agrees to other arrangements in writing. Construction of recycled water transmission mains and water service extensions shall be subject to the provisions of this chapter. All recycled water service provided prior to the installation of final street improvements shall be considered to be temporary, and the costs for all repairs or changes required to be made to the recycled water service line upon installation of final street improvements shall be paid by the customer.

C. If recycled water service to any customer is suspended or terminated because of failure by a customer to adhere to the provisions of this chapter, including but not limited to, the failure by a customer to pay for recycled water in accordance with this chapter, the customer shall pay to the department in advance of resumption of recycled water service a delinquent and/or reconnection charge which shall be equal to that delinquent and/or reconnection charge for potable water established from time to time by resolution of the city council, in addition to any payment for recycled water service then due. (Ord. 5112 § 36, 1996: prior code § 9-115)

13.28.070 Fees and charges-Delinquency-Disconnection or termination.

A. All fees, charges, deposits or penalties provided for in this chapter, including recycled water charges, shall be in the amount set forth in this chapter and in Chapter 13.08 or as may be established by resolution of the city council.

B. Payment by a customer for recycled water service shall be due and payable to the department as specified in Chapter 13.08 for water service. If payment is not received in accordance with Chapter 13.08, then the recycled water service may be disconnected or terminated. In the event the department disconnects or terminates recycled water service pursuant to this section, then in addition to the payment due for recycled water, the customer shall pay any and all delinquent and reconnection

charges for recycled water service as specified in Chapter 13.08 for water service.

C. Price of Recycled Water. The price for recycled water sold, supplied, distributed or transported to customers of the department shall be at a rate or charge equal to seventy-five percent of the rate or charge which the city council may establish from time to time as set forth in Chapter 13.08 for potable water and which is in effect on the date of delivery of recycled water by the department to such customer. Such charge or rate shall be the sum of the customer charge, commodity charge and adjustments as detailed in this chapter and specified in Chapter 13.08.150. (Ord. 5112 § 37, 1996: prior code § 9-116)

13.28.080 Conditions.

A. The director of public service shall establish and may vary conditions of pressure and service.

B. The department shall have control of and shall maintain and repair recycled water transmission mains, service lines and meters. The customer shall maintain in good working condition and shall repair the recycled water service connection and on-site facilities.

C. Unless otherwise provided by written agreement between the customer and the city, the customer shall pay for all on-site facilities, including their installation, as well as for recycled water service lines and extensions of recycled water transmission mains in order to provide recycled water service to the customer.

D. The customer shall not make any changes in or additions to the recycled water system or to on-site facilities without obtaining prior approval from the director of public service.

E. Neither a recycled water service connection nor a recycled water meter shall be used to provide recycled water service to any property or any portion of property which is not approved by the director of public service for that service or meter.

F. When property provided with a recycled water service connection and recycled water meter is subdivided, such connection and meter shall thereafter serve only the lot or parcel of land on which the meter is located. Additional recycled water mains, service lines connections and/or meters will be required for additional new lots or parcels created by subdivision, in accordance with this chapter.

G. All recycled water used on any premises approved for recycled water service must be serviced by a water meter designated for recycled water only.

H. The customer shall install and pay for an angle meter stop, as approved by the director of public service, on the inlet side of the meter, which shall be used exclusively by the department for controlling the recycled water supply through the recycled water service line. If the angle meter stop is damaged or otherwise requires replacement, in the determination of the director of public service, such replacement shall be made at the expense of the customer.

I. Each customer shall restrict the use of recycled water to those uses set forth in the application for recycled water services which is approved or conditionally approved by the director of public service.

J. The city shall not be responsible or liable for any suspension in service of, or failure to supply, recycled water, or for any damage, or injury to person or property relating to the provision of recycled water. (Ord. 5112 § 38, 1996: prior code § 9-117)

13.28.090 Disconnection and termination.

A. Recycled water service may be suspended or terminated at any time by the director of public service due to any one or more of the following:

1. Failure by a customer to adhere to the provisions of this chapter;

2. For the protection of the public health, safety and welfare;

3. In order to protect recycled water facilities or make repairs;

4. Inability of the city to obtain recycled water or otherwise provide recycled water service;

5. For failure of the customer to pay for recycled water in accordance with Chapter 13.08.

B. Where the director of public service determines that service should be terminated or disconnected, the director of public service shall mail written notice to the customer at least fifteen days prior to the date of proposed termination of service, setting forth the provisions of this chapter to which the customer has failed to adhere, which require the termination or disconnection, and the factual basis for this determination. However, in cases of threat to the public health, safety or welfare, the director of public service shall immediately disconnect the recycled water service and shall follow such disconnection with a written notice to such customer as to the reasons for such disconnection and the requirements that must be met to reconnect the recycled water service. The aggrieved party may appeal the determination of the director of public service as provided in Chapter 2.88.

C. With regard to subsections (A)(3) and (4) of this section, the decision of the director of public service to suspend or terminate recycled water service shall be final.

D. Where the department disconnects or terminates recycled water service in accordance with subsection (A)(1), (2) or (5) of this section, the customer shall thereafter pay any and all costs and fees for reconnecting or starting up recycled water service. Where the department disconnects and/or terminates recycled water service in accordance with subsection (A)(3) or (4) of this section, the department shall pay all costs and fees for reconnecting or starting up recycled water service.

E. The city council may, by resolution or by written agreement with the customer, impose a penalty for termination of use of recycled water because of voluntary act of the customer or determination of the director of public service for the reasons set forth in subsections (A)(1) and (5) of this section. (Ord. 5112 § 39, 1996: prior code § 9-118)

13.28.100 Impermissible recycled water connections.

No person shall make any connection to recycled water facilities of the city unless the director of public service has approved recycled water service for that person and for the recycled water service area in accordance with this chapter. (Ord. 5112 § 40, 1996: prior code § 9-119)

13.28.110 Meter testing.

A. If it is determined by the director of public service that a meter for recycled water fails to register or registers inaccurately during any period, the customer shall be charged for that period pursuant to an average daily consumption rate based upon a reading of the meter when in use and registering accurately during the same season or as close to the same season as is reasonably possible.

B. Whenever the accuracy of a recycled water meter is questioned, the customer may demand that the meter be examined and tested by the department for the purpose of

ascertaining whether or not it is correctly registering the amount of recycled water being delivered through it. Such demand shall be made in writing to the department, and shall be accompanied by a deposit of thirty dollars. Upon receipt of such demand and deposit, the department shall cause the meter to be examined and tested. A customer shall have the right to require the department to conduct the test in the customer's presence or in the presence of an expert or other representative appointed by the customer.

C. If the meter shall be found to register over two percent more recycled water than actually passes through it under conditions of normal operation, then the meter shall be properly adjusted or another meter will be substituted therefor, and the deposit of thirty dollars shall be refunded to the customer. If the meter is found to register not over two percent more recycled water than actually passes through it, the deposit of thirty dollars shall be retained by the department as partial compensation for the examination and test. (Ord. 5112 § 41, 1996: prior code § 9-120)

13.28.111 Adjustment of bills for meter error.

A. When a meter is found to register over two percent more recycled water than actually passes through it, the department will credit to the customer's account the overcharge based on the corrected meter readings for that portion of the month during which the demand and deposit were made by the customer up to the date of meter adjustment or replacement. If the actual cause and period of error can be definitely determined, the correction shall be made to cover such period, not to exceed six months.

B. If the meter upon test as herein provided is found to register less than ninety-eight percent of the actual usage, an average bill or a bill for the recycled water used but not covered by the bills previously rendered shall be rendered to the customer for that portion of the month during which the demand and deposit were made by the customer up to the date of meter adjustment or replacement. If the actual cause and period of error can be definitely determined, the correction shall be made to cover such period, not to exceed six months. (Ord. 5112 § 42, 1996)

13.28.120 Installation of markings.

A. Where any premises subject to recycled water services served by or contains dual or multiple water systems and piping, the exposed portions of pipelines shall be painted, banded or marked to distinguish clearly which is used for potable water and which is not used for potable water. In addition, all new unexposed pipes installed on any such property shall be similarly painted, banded or marked. All outlets for recycled water shall be posted with the wording "Recycled Water-Do Not Drink." All outlets intended for drinking purposes shall be plainly marked for this purpose. Main shutoff valves shall be clearly identified to distinguish between recycled water and domestic water systems.

B. The director of public service shall approve all painting, banding or marking prior to installation. (Ord. 5112 § 43, 1996: prior code § 9-121)

13.28.130 Design and construction of on-site facilities.

A. The customer shall provide and install at such customers expense any on-site recycled water facilities required to provide recycled water service. On-site recycled water facilities shall conform to state and local statutes, ordinances, regulations and other requirements. The customer shall make at such customer's expense any modification to the potable water system on the premises which is required by the director of public service in order to permit recycled water service including but not limited to the installation by the customer of approved backflow preventers. Plans, specifications and record drawings for on-site recycled water facilities shall be prepared and submitted by the property owner to the city and must be approved by the director of public service prior to the commencement of construction.

B. On-site recycled water facilities shall be designed to accommodate the use of recycled water in those areas where the director of public service has determined that recycled water will be supplied in the future even though recycled water service is not immediately available when the design area is ready for construction. (Ord. 5112 § 44, 1996: prior code § 9-122)

13.28.140 Design and construction of off-site facilities.

A. In circumstances where off-site water facilities constructed by the city are installed to serve more than one property, each property owner shall reimburse the city for the pro rata cost of installation of off-site recycled water facilities in accordance with a fee schedule or charges determined by the director of public service based upon costs of design, equipment, overhead, construction and inspection.

B. The department shall operate and maintain the off-site recycled water facilities, including recycled water pipelines, reservoirs, manholes, valves, connections, supply interties, and other appurtenances and property up to and including the meter. No other persons, except authorized employees of the city, shall enter upon, inspect, operate, adjust, change, alter, move or relocate any portion of the off-site recycled water facilities. (Ord. 5112 § 45, 1996: prior code § 9-127)

13.28.150 Customer's recycled water supervisor.

Any recycled water service customer shall designate a "recycled water supervisor" and shall keep the director of public service informed of his or her identity. Such recycled water supervisor shall be responsible for overseeing recycled water service, maintaining on-site facilities, and preventing cross-connections on the premises receiving recycled water service. Such recycled water supervisor shall promptly advise the director of public service of any cross-connection on the premises. (Ord. 5112 § 46, 1996: prior code § 9-123)

13.28.160 Conversion of existing facilities.

Where a property owner proposes the conversion of any existing potable water system to a recycled water system, a comprehensive investigation shall be performed by or for the department at the expense of the property owner. No potable water facilities shall be connected to or incorporated in the recycled water system where such facilities have not been approved for recycled water service by the director of public service and by any and all other required state or local offices or agencies. (Ord. 5112 § 47, 1996: prior code § 9-124)

13.28.170 Connections to potable water system.

If an emergency exists whereby in all or a portion of the recycled water system, recycled water is not available, the director of public service may approve a temporary connection for a customer to the potable water system. Before such temporary connection is made, the portion of the system that does not have recycled water available shall be isolated by an air-gap separation from the remainder of the recycled water system, either at individual service connections or on off-site facilities, as determined by the director of public service, and an approved backflow preventer shall be installed on the potable water line or lines in accordance with any and all applicable state and local statutes, ordinances and regulations. The emergency connection or connections shall be removed before connection is reestablished to the remainder of the recycled water system. The costs of such emergency connection shall be paid by the city. (Ord. 5112 § 48, 1996: prior code § 9-125)

13.28.180 Installation of backflow preventers.

Approved backflow preventers shall be installed and maintained by the customer, at its expense and following approval by the director of public service, on the premises to which recycled water service is provided. All backflow preventers shall be placed on the potable water system twelve inches above grade and as close to the meters as possible. Backflow preventers shall be inspected at least once a year by the customer, and the customer shall perform tests to insure that the backflow preventers remain in first-class working order in

accordance with the requirements of the director of public service and any and all other state and local regulatory authorities. Records of all tests, repairs and overhauls to backflow preventers shall be maintained by the customer and made available to the director of public service and any and all other state and local regulatory authorities. (Ord. 5112 § 49, 1996: prior code § 9-126)

13.28.190 Additional restrictions.

A. Conditions that cause a runoff of recycled water outside of the approved recycled water use area, whether by design, construction practice, or system operation, shall be eliminated wherever forthwith upon receipt of such notice from the director of public service.

B. The use of recycled water shall be limited to those uses permitted by federal and state law, and to those uses approved by the director of public service for the recycled water service area.

C. No customer or other party shall install or create cross-connections between a potable water system and recycled water system, other than as permitted by this chapter.

D. Any and all drinking fountains located within an approved recycled water use area shall be protected by siting and/or structure from contact with recycled water, whether by windblown spray or by direct application through irrigation or other approved uses.

E. No customer or other party shall use or install hose bibs on any on-site recycled water facilities, regardless of the hose bib construction or identification. Quick couplers shall be permitted, subject to the approval of the director of public service.

F. No customer or other party shall use or install fire hydrants on any on-site system that presently operates or is designed to operate with recycled water, regardless of the fire hydrant construction identification. (Ord. 5112 § 50, 1996: prior code § 9-128)

Attachment
Rules and Regulations for
Water Sewer and Recycled Water Service
from
Irvine Ranch Water District

SECTION 5

DESIGN CRITERIA RECYCLED WATER FACILITIES

5.1 General

All potential uses of recycled water, including, but not limited to, uses for landscape irrigation systems, agricultural irrigation systems, systems used for industrial process or construction purposes, or recreational impoundment systems, or flushing toilets and urinals in non-residential buildings shall be reviewed by the District. If recycled water is to be used, the facilities shall be constructed in accordance with the procedures and requirements set forth below.

The Irvine Ranch Water District (IRWD) recycled water program is supervised by the California Department of Health Services and the Orange County Health Agency. As set forth in the District's "Rules and Regulations for Water, Sewer, and Recycled Water Service," the District shall determine whether a given service will be furnished with recycled water or potable water. The determination shall be in accordance with the standards of treatment and water quality requirements set forth in Title 22, Chapter 4 of the California Administrative Code, with the intent of the District **to work in conjunction with the health agencies** to protect the public health, and with the availability and/or feasibility of making available recycled water facilities. **All on-site facilities using recycled water will have an annual cross connection test unless otherwise approved by the state and county health agencies based on a case by case basis. Details of specific cross connection tests can be found in subsequent sections of chapter 5. All inspections and any cross connection found are reportable to both state and county health agencies.**

IRVINE RANCH WATER DISTRICT

Section 1

GENERAL

Water, sewer, and reclaimed water service by the Irvine Ranch Water District, subject to the availability of facilities, adequate capacity in facilities, funds, or financing for the construction thereof, or all of the foregoing, is available on the following terms and conditions including all charges hereinafter established and provided for. Service on the basis herein set forth is intended to be available to each member of the public or each segment of the public on the same basis to the extent applicants, owners, or customers are similarly situated and desire to be served and may be served in an equal and comparable manner.

The general areas presently included within the boundaries of the District and the existing Improvement Districts are as established by the Board from time to time and depicted on Exhibits A-1 and A-2 to these Rules and Regulations. Exhibits A-1 and A-2 hereto are by this reference incorporated herein and may be changed by the District from time to time. In such instances, revised Exhibits A-1 and A-2 or portions thereof will be substituted to these Rules and Regulations. Such Improvement Districts have been formed for the purpose of providing water, sewer, and reclaimed water service. It is contemplated that additional Improvement Districts will be formed, as deemed proper by the Board, at a later date or that additional areas may be annexed, as determined by the Board, to the existing Improvement Districts or any Improvement Districts subsequently established within the District. In the alternative, other areas have been or in the future may be provided with water, sewer, or reclaimed water service by means of contracts with the District. Such contracts require the construction of necessary facilities or the payment of the capital cost and annual cost of operating and maintaining such facilities.

The plans for facilities to be constructed within the District and each of the existing and future Improvement Districts are intended to be an integrated part of the District's Water Resources Master Plan, Sewer Master Plan, Sub-Area Master Plans; and addenda thereto, which are approved from time to time, hereinafter in some instances referred collectively to as "the Plan."

As it is the desire of the District to effect conservation of water resources whenever possible, the Plan is also directed toward collecting, treating, and reclaiming sewage and wastewater and beneficially reusing the resulting reclaimed water.

It is the intent of the District that such reclaimed water be used in a manner that is in compliance with any and all applicable Federal, State, and local statutes, ordinances, regulations, and other requirements

In most instances where service is desired for purposes including, but not limited to, those set forth in Section 4.12, it is the general intent of the District to provide the applicant, owner, or customer with reclaimed water in lieu of potable water. However, each use must be approved on a case-by-case basis, and the District may determine in its discretion whether it is necessary or desirable to furnish the applicant, owner, or customer with potable water at potable water rates, either on a permanent basis or on an interim basis.

The District constructs the facilities needed in concert with environmental and land use decisions. The District neither determines nor intends to determine or precipitate land use decisions or the accomplishment of any plans of development of various owners of undeveloped property within the District.

In most instances, the sewer service is available as herein provided only where the District is assured to its satisfaction that in perpetuity it will also be providing water service to the applicant, customer, or property owner or the successor thereto for which sewer service is desired.

Requirements set forth in these Rules and Regulations, including but not limited to applicable rates and charges, may be modified by special contract where, in the opinion of the district, unique circumstances exist.

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exposed, shall be enclosed in a watertight masonry pit fitted with an adequately sized removable cover.

The applicant, owner, or customer shall provide and maintain, at his expense, backwater devices and appurtenances as required in this section. Each such device shall be located on the property it protects and shall not be allowed in the public right of way.

4.12 AUTHORIZED USES FOR RECLAIMED WATER

In accordance with the provisions of Section 1, the uses of reclaimed water may include, but not by way of limitation, landscape irrigation, agricultural irrigation, construction water, industrial process water, cooling tower makeup water, water for flushing toilets and urinals in high rise buildings, and District recreational impoundment. Each such use must be considered for approval by the District on a case-by-case basis, and the District may determine in its discretion whether it is necessary or desirable to furnish reclaimed water for the specific use involved. Determinations as to specific uses to be allowed shall be in accordance with the standards of treatment and water quality requirements set forth in Title 22, Chapter 4, of the California Administrative Code. Prior to approving such uses, the District may, in its discretion, set forth specific requirements as conditions to providing such services and/or require specific prior approval from the appropriate regulatory agencies.

4.13 SCHEDULING RECLAIMED WATER

The District reserves the right to control and schedule the use of reclaimed water if, in the opinion of the Manager or his designated representative, scheduling is necessary for purposes including, but not limited to, the maintenance of an acceptable working pressure in the reclaimed water system and providing for reasonable safeguards in relation to public health. Guidelines for such scheduling shall be as deemed appropriate by the Manager or his designated representative.

4.14 EMERGENCY CONNECTIONS TO RECLAIMED WATER SYSTEM

If in the opinion of the District, an emergency exists whereby in all or a portion of the reclaimed water system reclaimed water is not available, the Manager may approve a temporary connection to the potable water system. Before such temporary connection is made, the portion without reclaimed water shall be isolated by an air gap separation from the remainder of the reclaimed water system either at individual services or on the offsite system, as determined by the District and an approved backflow prevention device

Attachment
Municipal Code
from
City of San Diego

Article 4: Sewers

Division 8: Water Reclamation and Ocean Monitoring

("Water Reclamation" added 7–24–1989 by O–17327 N.S.)
(Retitled to "Water Reclamation And Ocean Monitoring" and amended 9–11–1995 by O–18206 N.S.)

§64.0801 Findings, Purpose and Intent

The Council of The City of San Diego finds that:

(a) the people of the State of California have a primary interest in the development of facilities to reclaim water containing waste to supplement existing surface and underground water supplies and to assist in meeting the future water requirements of the state; (California Water Code section 13510); and

(b) conservation of all available water resources requires the maximum reuse of wastewater for beneficial uses of water (Water Code section 461); and

(c) continued use of potable water for irrigation of greenbelt areas and for other uses where the use of reclaimed water is suitable may be an unreasonable use of such water where reclaimed water is available; and

(d) the state policies described above are in the best interest of the City. The majority of jurisdictions in San Diego County have adopted measures to promote water reclamation. This ordinance is necessary to protect the common water supply of the region which is vital to public health and safety, and to prevent endangerment of public and private property. San Diego County is highly dependent on limited imported water for domestic, agricultural and industrial uses. The reliability of the supply of imported water is uncertain. By developing and utilizing reclaimed water, the need for additional imported water can be reduced. In light of these circumstances, certain uses of potable water may be considered unreasonable or to constitute a nuisance where reclaimed water is available or production of reclaimed water is unduly impaired.

("Findings, Purpose and Intent" added 7–24–1989 by O–17327 N.S.)

§64.0802 Water Reclamation Policy

It is the policy of the City that reclaimed water shall be used within its jurisdiction wherever feasible, and consistent with legal requirements, preservation of public health, safety and welfare, and the environment.
("Water Reclamation Policy" added 7–24–1989 by O–17327 N.S.)

§64.0803 Definitions

The following terms are defined for purposes of this ordinance:

(a) Agricultural Purposes: Agricultural purposes include the growing of field and nursery crops, row crops, trees, and vines and the feeding of fowl and livestock.

(b) Artificial Lake: A human–made lake, pond, lagoon, or other body of water that is used wholly or partly for a landscape impoundment, a restricted recreational impoundment or a non– restricted recreational impoundment.

(c) Commercial Office Building: Any building for office or commercial uses with water requirements which include, but are not limited to, landscape irrigation, toilets, urinals and decorative fountains.

(d) Greenbelt Areas: A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping.

(e) Industrial Process Water: Water used by any industrial facility with process water requirements which include, but are not limited to, rinsing, washing, cooling and circulation, or construction, including any facility regulated by the industrial waste water discharge ordinance of the City. (Municipal Code, Chapter 6, Article 4).

(f) Off–site Facilities: Water (or reclaimed water) facilities from the source of supply to the point of connection with the on–site facilities, normally up to and including the water meter.

(g) On–site Facilities: Water (or reclaimed water) facilities under the control of the owner, normally downstream from the water meter.

(h) Potable Water: Water which conforms to the federal, state and local standards for human consumption.

(i) Reclaimed Water: Water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or controlled use that would not otherwise occur. (See Water Code section 13050(n).)

(j) Reclaimed Water Distribution: A piping system intended for the delivery of reclaimed water separate from any potable water distribution system.

(k) Waste Discharge: Waste discharge means water deposited, released or discharged into a sewer system from any commercial, industrial or residential source which contains levels of any substance which may cause substantial harm to any water treatment or reclamation facility or which may prevent any use of reclaimed water authorized by law, provided levels exceed those found in water actually delivered to the source of the waste discharge by the water purveyor.

("Definitions" added 7–24–1989 by O–17327 N.S.)

§64.0804 Administration

(a) General. The City Manager shall administer, implement and enforce the provisions of this ordinance. Any powers granted to or duties imposed upon the City Manager may be delegated by the City Manager to persons in the employ of the City.

(b) Regulations. The City Manager shall make and enforce regulations necessary to the administration of this ordinance. The Manager may amend such regulations from time to time as conditions require. These regulations shall be consistent with the general policy established herein by the City Council.

("Administration" added 7–24–1989 by O–17327 N.S.)

§64.0805 Penalty for Violation

(a) Public Nuisance: Discharge of wastes or the use of reclaimed water in any manner in violation of this ordinance or of any permit issued hereunder is hereby declared a public nuisance and shall be corrected or abated as directed by City. Any person creating such a public nuisance is guilty of a misdemeanor.

(b) Injunction: Whenever a use of reclaimed water is in violation of this ordinance or otherwise causes or threatens to cause a condition or nuisance, the City may

seek injunctive relief as may be appropriate to enjoin such discharge or use.

(c) Permit Revocation: In addition to any other statute or rule authorizing termination of reclaimed water service, the City Manager may revoke a permit issued hereunder if a violation of any provision of this ordinance is found to exist or if use of reclaimed water causes or threatens to cause a nuisance.

(d) Penalty: Any owner and/or operator who violates any penal provision of this ordinance shall, for each day of violation, or portion thereof, be subject to a fine not exceeding $1,000. In addition, water service to the property may be discontinued.

("Penalty for Violation" added 7–24–1989 by O–17327 N.S.)

§64.0806 Water Reclamation Master Plan

(a) General: Upon adoption of this ordinance, the City shall prepare and adopt a Water Reclamation Master Plan to define, encourage, and develop the use of reclaimed water within its boundaries. The Master Plan shall be updated every five years. The Master Plan may be one or more documents covering specific portions of the planning area.

(b) Contents of the Reclamation Master Plan: The Master Plan shall include, but not be limited to, the following:

(1) Plants and Facilities. Evaluation of the location and size of present and future reclamation treatment plants, distribution pipelines, pump stations, reservoirs, and other related facilities, including cost estimates and potential financing methods.

(2) Reclaimed Water Service Areas. A designation, based on the criteria set forth in Section 64.0802 and the information derived from Sections 64.0806(b)(1) and (b)(2) of the areas within the City that can or may in the future use reclaimed water in lieu of potable water. Reclaimed water uses can include, but are not limited to, the irrigation of greenbelt and agricultural areas, filling of artificial lakes, and appropriate industrial and commercial uses.

(3) Tributary Areas. A designation of proposed tributary areas for each water reclamation facility identified in the Master Plan, providing maps showing locations of major sewers tributary to an existing or proposed plant site, and the tributary area served by the facility.

(4) Quality of Water to Be Reclaimed. An evaluation of water quality with respect to the effect on anticipated uses of reclaimed water to be served by each treatment facility. An evaluation of sources of waste discharge and sewer inflow that may, directly or cumulatively, substantially contribute to adverse water quality conditions in reclaimed water. In the event that sufficient data is not available, recommendations on an enhanced sampling and monitoring program to provide additional data for further development of reuse options or necessary discharge regulation.

(5) Tributary Protection Measures. Recommendations of control measures and management practices for each designated tributary area to maintain or improve the quality of reclaimed water. Such control measures may include capital improvements to the sewer collection system and waste discharge restrictions for industrial, commercial and residential discharges.

(6) Schedule. A schedule for implementation, including additional planning and pre–design steps, institutional arrangements, permits, land acquisition, design, construction, startup, and facility phasing for each reclaimed water service area.

("Water Reclamation Master Plan" added 7–24–1989 by O–17327 N.S.)

§64.0807 Water Reclamation Master Plan

(a) General. No person or public agency, as used in California Water Code section 13551, shall use water from any source or of quality suitable for potable domestic use for the irrigation of greenbelt areas, or other uses where the use of reclaimed water is suitable, when reclaimed water is available.

(b) Identification of Users. Persons or agencies who are mandated to use reclaimed water are to be identified and permitted as described in this section.

(c) Existing Potable Water Service:

(1) Preliminary Determination. Based upon the Master Plan, upon the designation of each reclaimed water service area or the commencement of the design of new reclaimed water facilities, the City shall make preliminary determinations as to which existing potable water customers shall be converted to the use of reclaimed water. Each water customer shall be notified of the basis for a determination that

conversion to reclaimed water service will be required, as well as the proposed conditions and schedule for conversion.

(2) Notice. The notice of the preliminary determination, including the proposed conditions and time schedule for compliance, and a reclaimed water permit application shall be sent to the water customer by certified mail.

(3) Objections. The water customer may file a notice of objection with the City Manager within thirty (30) days after any notice of determination to comply is delivered or mailed to the customer, and may request reconsideration of the determination or modification of the proposed conditions or schedule for conversion. The objection must be in writing and specify the reasons for the objection. The preliminary determination shall be final if the customer does not file a timely objection. The City Manager shall appoint a panel of three (3) staff members who shall review the objection and shall confirm, modify or abandon the preliminary determination. The panel shall make a final determination within thirty (30) days of the filing of the notice of objection.

(d) Development and Water Service Approvals:

(1) Conditions. Upon application by a developer, owner or water customer (herein referred to as "applicant") for a tentative map, subdivision map, land use permit, or other development project as defined by Government Code section 65928, the City Manager shall review the Master Plan and make a preliminary determination whether the current or proposed use of the subject property requires it to be served with reclaimed water or to include facilities designed to accommodate the use of reclaimed water in the future, due to its location within an existing or proposed reclaimed water service area. Based upon such determination, a permit for such use may be required as a condition of approval of any such application, in addition to any other conditions of approval or service.

(2) Alterations and Remodeling. On a case by case basis, upon application for a permit for the alteration or remodeling of multi–family, commercial or industrial structures, the City Manager shall review the Master Plan and make a preliminary determination whether the subject property is within a reclaimed water service area (existing or proposed)

and shall be served with reclaimed water or include facilities designed to accommodate the use of reclaimed water in the future. Based upon such determination that use of reclaimed water and provision of reclaimed water distribution systems or other facilities for the use of reclaimed water is appropriate, a permit for such use may be required as a condition of approval of the application.

(3) Requested Service. On a case by case basis, upon application for a permit to use reclaimed water on a property not covered by Sections 64.0807 (d)(1) and (d)(2) above, the City Manager shall review the Master Plan and make a determination whether the subject property shall be served with reclaimed water. Based upon such determination, the application for the permit shall be accepted and processed subject to Section 64.0807(e).

(4) Notice of Determination. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant prior to approval of the development application, or application for water service.

(e) Reclaimed Water Permit Process: Upon a final determination by the City that a property shall be served with reclaimed water or adoption of a condition of development approval or water service requiring use or accommodation of the use of reclaimed water, the water customer, owner or applicant shall obtain a reclaimed water permit.

(1) Permit Conditions. The permit shall specify the design and operational requirements for the applicant's water distribution facilities and schedule for compliance, based on the rules and regulations adopted pursuant to Section 64.0808(a) and shall require compliance with both the California Department of Health Services Wastewater Reclamation Criteria (see California Code of Administrative Regulations, Title 22), and requirements of the Regional Water Quality Control Board.

(2) Plan Approval. Plans for the reclaimed and non– reclaimed water distribution systems for the parcel shall be reviewed by the City and a field inspection conducted before the permit is granted.

(3) Permit Issuance. Upon approval of plans the permit shall be issued. Reclaimed water shall not be supplied to a property until inspection by the City determines that the applicant is in compliance with the permit

conditions.

(f) Temporary Use of Potable Water. At the discretion of the City, potable water may be made available on a temporary basis, until reclaimed water is available. Before the applicant receives temporary potable water, a reclaimed water permit, as described in Section 64.0807(c), must be obtained for new on–site distribution facilities. Prior to commencement of reclaimed water service, an inspection of the on–site facilities will be conducted to verify that the facilities have been maintained and are in compliance with the reclaimed water permit and current requirements for service. Upon verification of compliance, reclaimed water shall be served to the parcel for the intended use. If the facilities are not in compliance, the applicant shall be notified of the corrective actions necessary and shall have at least thirty (30) days to take such actions prior to initiation of enforcement proceedings.

(g) Reclaimed Water Rate: The rate charged for reclaimed water shall be established by resolution of the City.

("Water Reclamation Master Plan" added 7–24–1989 by O–17327 N.S.)

§64.0808 Implementation Program

(a) Rules and Regulations. The City Manager shall establish general rules and regulations governing the use and distribution of reclaimed water.

(b) Public Awareness Program. The City Manager shall establish a comprehensive water reclamation public awareness program.

(c) Coordination among Agencies. The City Manager shall coordinate efforts between the City and other regional agencies to share in the production and utilization of reclaimed water, where the potential exist.

(d) Financing Programs. The City Manager may, through the Master Plan, or other program, identify resources, and adopt measures to assist water users in the financing of necessary conversions mandated by this ordinance.

("Implementation Program" added 7–24–1989 by O–17327 N.S.)

§64.0809 Regulation of Waste Discharge to Sewage Systems

(a) Intent: The City recognizes that to maintain adequate wastewater quality for water reclamation treatment processes, and to protect public and private property, restrictions may be required on certain industrial, commercial and

residential waste discharges to a sewerage system that is located within a designated tributary area of an existing or planned reclamation facility.

(b) Adopted Tributary Protection Measures: Waste discharges to the sewage system from any industrial, commercial or residential source may be restricted or prohibited by ordinance upon a finding, following a noticed public hearing, that the type or class of discharge involved is capable of causing or may cause substantial damage or harm to any sewage treatment or reclamation facility or to any significant user or users or potential user or users of reclaimed water within an area which has been planned for reclaimed water service. (Municipal Code section 64.0514)

("Regulation of Waste Discharge to Sewage Systems" added 7–24–1989 by O–17327 N.S.)

§64.0810 Validity

If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, the remainder of the ordinance and the application of such provisions to other persons or circumstances shall not be affected thereby.
("Validity" added 7–24–1989 by O–17327 N.S.)

§64.0811 Ocean Monitoring Requirements

(a) The City Manager shall conduct an ocean monitoring program of all effluent discharged from publicly owned treatment works to evaluate the impact of sewage discharge on the marine biota. The City's monitoring program shall be used to demonstrate compliance with applicable federal and state water quality standards. The City's monitoring program shall be conducted to ensure an accurate evaluation of the health of the marine environment, which monitoring program shall adhere to applicable federal and state standards. If either federal or state standards are repealed, the City's monitoring program shall continue.

(b) The results of the Comprehensive monitoring program shall be reported as required to federal and state regulatory agencies and shall be reported on a quarterly basis to the San Diego City Council. The reports shall be public documents and be available for public inspection upon request.

("Ocean Monitoring Requirements" added 9–11–1995 by O–18206 N.S.)

Attachment
Code of Regulatory Ordinances
from
County of San Diego

San Diego County Code of Regulatory Ordinances

TITLE 6 HEALTH AND SANITATION*

DIVISION 7. WATER AND WATER SUPPLIES*

CHAPTER 5. WATER RECYCLING*

CHAPTER 5. WATER RECYCLING*

***Note--**Chapter 5 added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and new Chapter 5 added by Ord. No. 8222 (N.S.), effective 4-29-93; title amended by Ord. No. 9273 (N.S.), effective 12-15-00.

Cross reference(s)--Sewers and sewage disposal plants, § 68.101 et seq.; graywater systems, § 68.352.

ARTICLE 1. TITLE AND DEFINITIONS

SEC. 67.501. SHORT TITLE.

This Chapter shall be known as the "Water Recycling Ordinance" and may be cited as such.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.502. DEFINITIONS.

The definitions in this article shall govern the construction of this chapter unless otherwise apparent from the context.

a) ADMINISTRATOR. Shall mean the Director of the Department of Environmental Health, or authorized agent.

b) DIRECTOR. Shall mean the Director of the Department of Public Works, County of San Diego, or authorized agent.

c) DISCRETIONARY LAND USE PERMITS. Shall mean a subdivision map, major use permit, specific plan or specific plan amendment.

d) GREENBELT AREAS. A greenbelt area includes, but is not limited to, golf courses, cemeteries, parks and landscaping. Greenbelt areas do not include agricultural operations for the purpose of this ordinance.

e) OFF-SITE FACILITIES. Water (or recycled water) pipes and delivery

infrastructure from the source of supply to the point of connection with the on-site facilities, normally up to and including the water meter.

f) ON-SITE FACILITIES. Water (or recycled water) pipes and delivery infrastructure located on private property, normally downstream from the water meter and under the control of the owner.

g) POTABLE WATER. Water which conforms to the federal, state and local standards for human consumption.

h) POTENTIAL HEALTH HAZARD. An act or condition that increases the risk to the public health.

i) RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur.

j) RECYCLED WATER DISTRIBUTION SYSTEM. A piping system intended for the delivery of recycled water separate from and in addition to the potable water distribution system.

k) SPECIAL PURPOSE DISTRICT. Either a dependent district (governed by the Board of Supervisors) or an independent district (governed by an independent board of directors) authorized to sell potable or recycled water within a defined geographic boundary.

l) WASTE DISCHARGE. Water deposited, released or discharged into a sewer system from a commercial, industrial or residential source which contains levels of any substance which may cause substantial harm to any wastewater treatment or recycling facility or which may prevent any use of recycled water authorized by law, provided levels of those substances exceed those found in water originally delivered to the source of the waste discharge by the water purveyor.

m) WATER RECYCLING MASTER PLAN. Plan adopted by the County which defines and establishes guidelines for the use of recycled water within the unincorporated area.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 8477 (N.S.), adopted 11-8-94, operative 1-1-95; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

Cross reference(s)--Sewers and sewage disposal plants, § 68.101 et seq.

ARTICLE 2. GENERAL REGULATIONS

SEC. 67.510. ENFORCEMENT.

The Director and Administrator shall enforce all the provisions of this chapter and for such purpose shall have the powers of a peace officer.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93)

SEC. 67.511. APPLICATION.

a) Applicants for discretionary land use permits in the unincorporated areas of the County served by a special purpose district which has adopted a water recycling ordinance, or has established a plan to provide recycled water to its customers, shall be exempt from the provisions of this ordinance.

b) Applicants for discretionary land use permits in the unincorporated areas of the County served by a special purpose district which does not have an adopted water recycling ordinance, or has no established plan to provide recycled water to its customers, shall follow the County Water Recycling Master Plan and this Water Recycling Ordinance to obtain approval for the use of recycled water.

(Added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.512. IMPLEMENTATION.

The Director and Administrator shall promulgate rules and regulations and other requirements as are necessary to fully implement this ordinance, after approval by the Board of Supervisors.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93)

SEC. 67.513. PUBLIC AWARENESS PROGRAM.

The Director shall obtain the approval of the Board of Supervisors for the establishment of a comprehensive water recycling public awareness program.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.514. COORDINATION AMONG AGENCIES.

The Director shall coordinate efforts between the County and other appropriate agencies in the region to share in the development and utilization of recycled water, where the potential exists.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.515. VIOLATIONS CONSTITUTE PUBLIC NUISANCE.

Any discharge of wastes or use of recycled water in any manner in violation of this ordinance, the California State Department of Health Service Wastewater Reclamation Criteria (see California Code of Regulations, Title 22) and requirements of the California Regional Water Quality Control Board Waste Discharge Requirements, or any other applicable regulations, shall be, and the same is hereby declared to be, unlawful, a public nuisance and a potential health hazard and shall be corrected or abated as directed by the Administrator or Director. Any person creating such a public nuisance and potential health hazard shall be charged with a misdemeanor.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No.

8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

Cross reference(s)--Uniform public nuisance abatement procedure, § 16.201 et seq.

SEC. 67.516. INJUNCTION.

Whenever the use of recycled water is in violation of this ordinance or otherwise causes or threatens to cause a condition of nuisance and public health hazard, the Administrator or Director may seek injunctive relief as may be appropriate to enjoin such use.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.517. PENALTY.

Any person who violates this ordinance shall, for each day of violation, or portion thereof, be subject to a fine not exceeding $1,000.00. Paying a fine shall not relieve any person of the responsibility for correcting the condition which violates any provision of this ordinance.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93)

ARTICLE 3. MANDATORY RECYCLED WATER USE*

***Note--**Title amended by Ord. No. 9273 (N.S.), effective 12-15-00.

SEC. 67.520. PROHIBITION.

No person or public agency shall use water from any source of quality suitable for potable domestic use for non-potable uses, including the irrigation of greenbelt areas, highway landscaped areas, flushing of toilets and urinals in non-residential structures and industrial uses if suitable recycled water is available as provided in Water Code Section 13550 through 13554. This prohibition shall only apply to discretionary land use permits as defined in Section 67.502(c) approved by the County after the effective date of this ordinance.

(Repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.521. DISCRETIONARY LAND USE PERMITS.

a) Upon application for a subdivision map, major use permit, specific plan or specific plan amendment, the Director and affected special purpose district shall review the application and the Water Recycling Plan for the area. Within 20 calendar days of receipt of the application the Director shall transmit to the Department of Planning and Land Use a preliminary determination whether the proposed use of the subject property will be required to be served with recycled water, and/or will be required to include facilities designed to accommodate the use of recycled water. Will serve letters for recycled water

service shall be requested from the applicable special purpose district by the applicant. Based upon the Director's determination and the availability of recycled water to the project, use of recycled water and provision of recycled water distribution systems or other facilities for the use of reclaimed water may be required as a condition of approval of the requested permit, plan or amendment.

b) NOTICE OF DETERMINATION. A notice of the basis for the preliminary determination, proposed conditions of approval and schedule for compliance shall be provided to the applicant from the Director or special purpose district prior to approval of the development application.

c) CONDITIONS OF USE. The design and operational requirements for the project's recycled water distribution system and schedule for compliance shall be based on the rules and regulations adopted pursuant to Section 67.512, and shall require compliance with both the California State Department of Health Service Wastewater Reclamation Criteria and requirements of the California Regional Water Quality Control Board.

d) PLAN APPROVAL. Plans for the recycled and potable water distribution systems for the project shall be reviewed and approved by the Administrator and the appropriate special purpose district.

(Repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.523. INSPECTION OF FACILITIES.

Prior to commencement of recycled water service, an inspection of on-site facilities will be conducted by the Administrator to verify that the facilities are in good working order and in compliance with recycled water use regulations and current requirements for service. Upon verification of compliance, recycled water shall be served to the parcel for the intended use. If the facilities are not in compliance the applicant shall be notified of the corrective actions necessary, and shall have at least thirty (30) days to take such actions prior to initiation of enforcement proceedings.

(Repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

SEC. 67.524. CROSS CONNECTION CONTROL.

There shall be no physical connection between the potable water supply and the recycled water supply, whereby the potable supply could become contaminated. Each special purpose district may appoint a water supervisor, knowledgeable about plumbing and cross connection control, to monitor construction and operation of the on-site and off-site facility distribution system(s). If the special purpose district serving a facility has no water supervisor, the owner or operator of the facility shall appoint a water supervisor to monitor construction and operation of the on-site facility distribution system(s). The Administrator shall review recycled water distribution system plans and recycled water irrigation system plans for cross-connections. This includes an initial cross-connection control site inspection and an annual cross-connection control inspection of sites having both recycled and potable water systems.

(Added by Ord. No. 7737 (N.S.), effective 4-26-90; repealed and added by Ord. No. 8222 (N.S.), effective 4-29-93; amended by Ord. No. 9273 (N.S.), effective 12-15-00)

Attachment
Memorandum form
County Sanitation Districts
of Los Angeles County

MEMORANDUM

County Sanitation Districts of Los Angeles County

July 15, 2003

TO: Jim Stahl

THROUGH: Vicki Conway

FROM: Earle Hartling

SUBJECT: **Reclaimed Water Use Status at County Facilities**

The County Department of Parks and Recreation web page supplied a listing of all of the county's regional parks, local parks, golf courses and arboretums. These lists were then broken down into five categories to show: 1) County sites already receiving reclaimed water, either from the Districts or another agency; 2) County sites that are planning to receive reclaimed water in the immediate future; 3) County sites that could receive water from completely new distribution systems; 4) County sites that are somewhat near an existing or proposed reclaimed water pipeline and 5) County sites that were either outside of the metropolitan Los Angeles area or were considered too far from any existing or proposed reclaimed water system. Please keep in mind that, for the third and fourth categories, the sites have been selected for their relatively close geographic proximity to an existing or planned reclaimed water distribution line, only. No evaluation has been made to determine if any of these sites could be served economically. Detailed information on these sites, such as acreage, water demand and exact distance from a reclaimed water distribution line, was not available for inclusion in this report. (Note: The sites marked with "*" are located within Supervisor Knabe's district.)

CATEGORY 1 – COUNTY SITES CURRENTLY CONNECTED TO A RECLAIMED WATER SYSTEM

A number of County-operated facilities are currently connected to reclaimed water systems located throughout Los Angeles County. These sites, their location and the source of the reclaimed water are listed in Table 1.

Table 1 County Sites Currently Using Reclaimed Water

Site	City	Source
Cerritos Park *	Cerritos	Los Coyotes WRP (Cerritos)
Del Aire Park	Hawthorne	West Basin
Alondra Park (west side)	Lawndale	West Basin
Lennox Park	Lennox	West Basin
Sunshine Park	La Puente	Pomona WRP (WVWD)
Carolyn Rosas Park *	Rowland Heights	Pomona WRP (WVWD)
Rowland Heights Park *	Rowland Heights	Pomona WRP (WVWD)
Sorenson Park *	Whittier	San Jose Creek WRP (CBMWD)
Apollo Park	Lancaster	Lancaster WRP
Bonelli Reg. Park	San Dimas	Pomona WRP (Pomona)
Mountain Meadows G.C.	San Dimas	Pomona WRP (Pomona)
Diamond Bar G.C. *	Diamond Bar	Pomona WRP (WVWD)
Schabarum Reg. Park *	Rowland Heights	Pomona WRP (WVWD)
Lakewood G.C. *	Long Beach	Long Beach WRP (Long Beach)
Chester Washington G.C.	Hawthorne	West Basin
Victoria G.C.	Carson	West Basin (connecting this week)

CATEGORY 2 – COUNTY SITES PLANNING TO RECEIVE RECLAIMED WATER

These County sites are either in the process of being connected to a reclaimed water distribution system (either Central Basin or West Basin MWDs), or were previously connected but no longer receive reclaimed water.

Rancho Los Amigos G.C.: Central Basin MWD has been in contact with Supervisor Knabe's office regarding this site. One million dollars has been earmarked for a retrofit of the golf course's irrigation system, but no work has been done. The reclaimed water line has already been built right up to the site and is ready to supply water now.

Victoria Park: WBMWD has already built the pipeline right up to the site, but WBMWD staff have claimed that park staff have moved slowly on producing plans so that the irrigation system retrofit can be designed, constructed then placed in operation.

Alondra G.C.: This site had been connected to the West Basin MWD reclaimed water system when its previous groundwater/domestic water source had been interrupted for refurbishment of the lake in which the water was stored. This site went back to the original water supply when the lake went back into service, based on the claim that the greens weren't doing well with the reclaimed water. Golf course staff were previously informed by WBMWD staff that a separate potable water system to service the greens, as is done elsewhere, would be needed. WBMWD continues to hope that this site will decide to reconnect to the reclaimed water system.

Table 2 County Sites Prepared to Receive Reclaimed Water

Site	City	Purveyor
Rancho Los Amigos G.C. *	Downey	CBMWD
Victoria Park	Carson	WBMWD
Alondra Golf Course	Lawndale	WBMWD

CATEGORY 3 – COUNTY SITES POTENTIALLY RECEIVING RECLAIMED WATER FROM FUTURE DISTRIBUTION SYSTEMS

These County sites (listed in Table 3) would be served by completely new distribution systems, rather than extensions from existing systems. The two systems being considered have no firm timetable for implementation.

Arcadia System: In recent discussions with the City of Arcadia, a potential reclaimed water distribution system originating at the Whittier Narrows WRP would run north to that city and could potentially serve the following County sites: Whittier Narrows Golf Course, Whittier Narrows Recreation Area, the Los Angeles Arboretum, Arcadia County Park, Santa Anita Golf Course, Michillinda Park, and Eaton Canyon Golf Course.

USGVMWD San Gabriel River System: The Upper San Gabriel Valley MWD had previously planned for a large diameter transmission line to run north along the east bank of the San Gabriel River to supply reclaimed water from the San Jose Creek WRP for groundwater recharge. This line could also serve direct non-potable applications, possibly including the following County sites: San Angelo, Bassett and Avocado Heights parks (La Puente) and Santa Fe Dam Recreation Area. USGVMWD has not decided to build this system based on the NPDES discharge uncertainties to do a planned groundwater recharge project from this line in the upper portion of the San Gabriel River.

Table 3 County Sites to be Served by New Distribution Systems

Arcadia System
Whittier Narrows Golf Course
Whittier Narrows Recreation Area
Los Angeles Arboretum
Arcadia County Park
Santa Anita Golf Course
Eaton Canyon Golf Course
Michillinda Park

USGMWD System
San Angelo Park
Bassett Park
Avocado Heights Park
Santa Fe Dam Recreation Area

CATEGORY 4 – COUNTY SITES RELATIVELY CLOSE TO EXISTING DISTRIBUTION SYSTEMS

The following lists the County sites that are fairly close to an existing reclaimed water system and would require only a moderate amount of pipeline extension. They are arranged by distribution system and are summarized in Table 4. In some cases, they are part of a long-term "wish list" for their respective agencies, with no set time schedules for hook-up. Due to the limited available information on reclaimed water conveyance pipeline alignments, the estimated distance from the reuse site to the existing distribution system is not provided, except for the Pomona Water Department.

Pomona Water Department: Walnut Creek Park and Charter Oak Park are fairly close to the City of Pomona's distribution system terminating at Bonelli Park. Marshall Canyon Golf Course and San Dimas Canyon Park are in the general vicinity, but are quite some distance (approximately 3-4 miles) north of Bonelli Park.

Walnut Valley Water District: A number of County sites are located in Rowland Heights within a short distance of a WVWD distribution line (nearest existing customer in parentheses) and include: Bill Blevins Park (near Rowland High School), Gloria Heer Park (near Queen of Heaven Cemetery) and Trailview Park (near Schabarum Regional Park).

City of Industry: A number of parks in the Hacienda Heights area are beyond the terminal point of the WVWD reclaimed water system at Schabarum Park, and may be best served by an extension from the City of Industry's transmission line running along the south bank of the San Jose Creek. The County sites are the Thomas Burton, Pepperbrook, Country Wood, Los Robles, Manzanita and William Steinmetz parks. Also, a separate extension from the Industry Hills Recreation Area use site could serve Allen Marten and Rimgrove Drive parks in La Puente.

CBMWD's Rio Hondo System: Both Amigo Park (Pico Rivera) and McNees Park (Whittier) are located near Central Basin's existing Rio Hondo distribution system. In the near future, CBMWD will be constructing their "Montebello Loop" extension that will extend into the City of Vernon. Some of the East Los Angeles county sites that could be served are: Saybrook, Salazar, Atlantic Avenue, Belvedere and Obregon parks.

CBMWD's Century System: East Rancho Dominguez Park in Compton is just east of Compton Golf Course, which is the western terminus of Central Basin's Century distribution system. Also, a reconnaissance level investigation identified a potential extension of the reclaimed water system in Santa Fe Springs to Parnell Park in Whittier, which could potentially serve the following County sites: Amelia Mayberry and Gunn Avenue parks. CBMWD staff are currently examining the proposed system to determine if it could be built and operated economically. La Mirada Golf Course and Park are in an area with quite a bit of demand for reclaimed water, including Biola University, Behringer Park, La Mirada High School, Olive Lawn Memorial Park, etc. However, the closest CBMWD transmission line is the one that currently ends in Santa Fe Springs, and that line is hydraulically "challenged." An increase in capacity at the Cerritos Pump Station, which may be realized from the current retrofit of that facility, may make this extension possible.

West Basin/Central Basin Intertie: For some time, the staff of CBMWD/WBMWD have been considering a possible "intertie" line that would connect the West Basin distribution system originating from their treatment plant in El Segundo, with the Century distribution system originating from the Los Coyotes WRP. This intertie would pick up a number of sites in the "no-man's land" between the two systems. The county sites that are in this area are: Mona and Roy Campanella parks in Compton, and Athens, Helen Keller, Enterprise, George Washington Carver, FDR, and Col. Leon Washington parks in Los Angeles.

West Basin MWD: Maggie Hathaway Golf Course and Jesse Owens Park are adjacent to one another, but are on the opposite side of Hollywood Park racetrack from the WBMWD reclaimed water line. The golf course operator has expressed a great interest in receiving reclaimed water, but the only route is down Century Blvd., and this presents a difficult logistical problem for construction. South Coast Botanical Gardens is on the planning horizon for WBMWD, but the site operators have expressed concerns over what effect the TDS in the reclaimed water might have on their exotic plants. There have been on-going discussions to expand Kenneth Hahn Regional Park by developing the adjacent oil fields, creating a greenbelt area that would be as big as Central Park in NY. If the conservancy in charge of this project is successful, then WBMWD feels that it would then be economical to extend its reclaimed water service to that area.

Table 4 County Sites Near Existing Pipelines

SITE	Pomona	WVWD	Industry	Rio Hondo	Century	Intertie	WBMWD
Walnut Creek Park	✔						
Charter Oak Park	✔						
Marshall Canyon G.C.	✔						
San Dimas Cyn. Park	✔						
Bill Blevins Park *		✔					
Gloria Heer Park *		✔					
Trailview Park *		✔					
Burton Park *			✔				
Pepperbrook Park *			✔				
Country Wood Park *			✔				
Los Robles Park *			✔				
Manzanita Park *			✔				
Steinmetz Park *			✔				
Allen Marten Park			✔				
Rimgrove Drive Park			✔				
Amigo Park				✔			
McNees Park *				✔			
Saybrook Park				✔			
Salazar Park				✔			
Atlantic Avenue Park				✔			
Belvedere Park				✔			
Obregon Park				✔			
Rancho Dominguez Pk					✔		
Amelia Mayberry Pk. *					✔		
Gunn Avenue *					✔		
La Mirada G.C. *					✔		
La Mirada Park *					✔		
Mona Park						✔	
Roy Campanella Park						✔	
Athens Park						✔	
Helen Keller Park						✔	
Enterprise Park						✔	
George W. Carver Park						✔	
FDR Park						✔	
Col. Washington Park						✔	
Maggie Hathaway G.C.							✔
Jesse Owens Park							✔
So. Coast Bot. Grdns. *							✔
Kenneth Hahn Park							✔

CATEGORY 5 – COUNTY SITES NOT NEAR EXISTING OR PROPOSED DISTRIBUTION SYSTEMS

The remaining county-operated sites were either outside of the metropolitan Los Angeles Area (e.g., Sylmar, Santa Clarita Valley, Antelope Valley) or judged to be too isolated or too far away from an existing or proposed reclaimed water distribution system. (Example: the Los Verdes Golf Course is extremely difficult to get to because of the long distance and the lift required to get it over the hills on the Palos Verdes Peninsula). These sites are summarized in Table 5.

Table 5 Remote County Sites Not Evaluated for Report

Site	City
Mary M. Bethune Park	Los Angeles
Magic Johnson Park	Los Angeles
Ladera Park	Los Angeles
Ted Watkins Park	Los Angeles
Dean Dana-Friendship Park *	San Pedro
City Terrace Park	East Los Angeles
Pathfinder Park *	Rowland Heights
Charles Farnsworth Park	Altadena
Loma Alta Park	Altadena
Charles White Park	Altadena
Dalton Park	Azusa
Valleydale Park	Azusa
Castaic Sports Center	Castaic
Del Valle Park	Castaic
Hasley Canyon Park	Castaic
Pamela Park	Duarte
Crescenta Valley Park	Glendale
Dexter Park	Kagel Canyon
Two Strike Park	La Crescenta
Everett Martin Park	Littlerock
Jackie Robinson Park	Littlerock
Pearblossom Park	Pearblossom
George Lane Park	Quartz Hill
Val Verde Park	Saugus
El Cariso Park	Sylmar
Veterans Park	Sylmar
Castaic Lake Recreation Area	Castaic
William Hart Regional Park	Newhall
Altadena Co. Golf Course	Altadena
Knollwood Co. Golf Course	Granada Hills
El Cariso Co. Golf Course	Sylmar
Virginia Robinson Gardens	Beverly Hills
Descanso Gardens	La Canada-Flintridge
Los Verdes Co. Golf Course *	Rancho Palos Verdes